SONY

PROFESSIONAL VIDEO MONITOR

BVM-F250A
BVM-F170A

TRIMASTER EL

OPERATION MANUAL English

1st Edition

Before operating the unit, please read this manual thoroughly and retain it for future reference.

For BVM-F250A/F170A

Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.

For BVM-F250A only

This apparatus is provided with a main switch on the left side panel.
Install this apparatus so that user can access the main switch easily.

For BVM-F170A only

WARNING

When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power plug to an easily accessible socket-outlet near the unit. If a fault should occur during operation of the unit, operate the disconnect device to switch the power supply off, or disconnect the power plug.

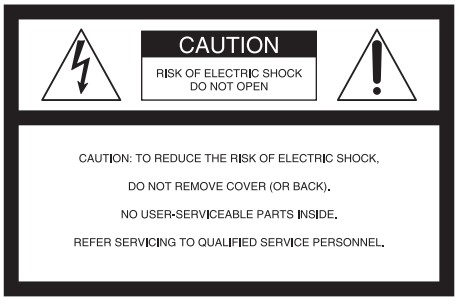
For BVM-F250A/F170A

CAUTION

The apparatus shall not be exposed to dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION

The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING: THIS WARNING IS APPLICABLE FOR USA ONLY.
If used in USA, use the UL LISTED power cord specified below.
DO NOT USE ANY OTHER POWER CORD.

Plug Cap	Parallel blade with ground pin (NEMA 5-15P Configuration)
Cord	Type SJT or SVT, three 16 or 18 AWG wires
Length	Minimum 1.5 m (4 ft .11in.), Less than 2.5 m (8 ft .3 in.)
Rating	Minimum 10A, 125V

Using this unit at a voltage other than 120V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

WARNING: THIS WARNING IS APPLICABLE FOR OTHER COUNTRIES.

1. Use the approved Power Cord (3-core mains lead) / Appliance Connector / Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
2. Use the Power Cord (3-core mains lead) / Appliance Connector / Plug conforming to the proper ratings (Voltage, Ampere).

If you have questions on the use of the above Power Cord / Appliance Connector / Plug, please consult a qualified service personnel.

For the customers in Canada

This Class A digital apparatus complies with Canadian ICES-003.

For the customers in Europe

This product with the CE marking complies with the EMC Directive issued by the Commission of the European Community.
Compliance with this directive implies conformity to the following European standards:

- EN55103-1 : Electromagnetic Interference (Emission)
- EN55103-2 : Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment: E4 (controlled EMC environment, ex. TV studio).

This product has been manufactured by or on behalf of Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan. Inquiries related to product compliance based on European Union legislation shall be addressed to the authorized representative, Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters, please refer to the addresses provided in the separate service or guarantee documents.

This apparatus shall not be used in the residential area.

For BVM-F170A only

Attention-when the product is installed in Rack:

1.Prevention against overloading of branch circuit

When this product is installed in a rack and is supplied power from an outlet on the rack, please make sure that the rack does not overload the supply circuit.

2.Providing protective earth

When this product is installed in a rack and is supplied power from an outlet on the rack, please confirm that the outlet is provided with a suitable protective earth connection.

3.Internal air ambient temperature of the rack

When this product is installed in a rack, please make sure that the internal air ambient temperature of the rack is within the specified limit of this product.

4.Prevention against achieving hazardous condition due to uneven mechanical loading

When this product is installed in a rack, please make sure that the rack does not achieve hazardous condition due to uneven mechanical loading.

5.Install the equipment while taking the operating temperature of the equipment into consideration

For the operating temperature of the equipment, refer to the specifications of the Operation Manual.

6.When performing the installation, keep the following space away from walls in order to obtain proper exhaust and radiation of heat.

Lower, Upper: 4.4 cm ($1^3/_4$ inches) or more
Right, Left: 1.0 cm ($^{13}/_{32}$ inches) or more

For BVM-F250A/F170A

For the customers in Europe, Australia and New Zealand

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

For kundene i Norge

Dette utstyret kan kobles til et IT-strømfordelingssystem.

Apparatet må tilkoples jordet stikkontakt

Suomessa asuville asiakkaille

Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan

För kunderna i Sverige

Apparaten skall anslutas till jordat uttag

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Using This Manual

This Operation Manual includes explanations for the BVM-F250A and BVM-F170A.
The model name is specified where there is a difference between the two models. (Example: Location and Function of Parts (BVM-F250A))
Please note that the explanations are common to both models where no model name is specified.

Chapter 1 Overview

Precautions

On Safety

- Operate the unit only with a power source as specified in the “Specifications” section.
- A nameplate indicating operating voltage, power consumption, etc., is located on the rear panel.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

On Installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

For BVM-F250A only

When installing the installation space must be secured in consideration of the ventilation and service operation.
- Do not block the ventilation slots, and vents of the fans.
- Leave a space around the unit for ventilation.
- Leave more than 40 cm of space in the rear of the unit to secure the operation area.

When the unit is installed on the desk or the like, leave at least 1U (4.4 cm) or more of space above and below the unit. Leaving 40 cm or more of space above the unit is recommended for service operation.

Handling the Screen

- The OLED panel fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels may be “stuck”, either always off (black), always on (red, green, or blue), or flashing. In addition, over a long period of use, because of the physical characteristics of the panel, such “stuck” pixels may appear spontaneously. These problems are not a malfunction.
- Do not leave the screen facing the sun as it can damage the screen. Take care when you place the unit by a window.
- Do not push or scratch the monitor’s screen. Do not place a heavy object on the monitor’s screen. This may cause the screen to lose uniformity.
- The screen and the cabinet become warm during operation. This is not a malfunction.

On Burn-in

Due to the characteristics of the material used in the OLED panel, permanent burn-in or reduction in brightness may occur.
These problems are not a malfunction.

Images that may cause burn-in
- Masked images with aspect ratios other than 16:9
- Color bars or images that remain static for a long time
- Character or message displays that indicate settings or the operating state
- On-screen displays such as center markers or area markers

To reduce the risk of burn-in

- Turn off the character and marker displays
  Press the MENU button to turn off the character displays. To turn off the character or marker displays of the connected equipment, operate the connected equipment accordingly. For details, refer to the operation manual of the connected equipment.
- Turn off the power when not in use
  Turn off the power if the monitor is not to be used for a prolonged period of time.

Screen saver

This product has a built-in screen saver function to reduce burn-in. When an almost still image is displayed for more than 10 minutes, the screen saver starts automatically and the brightness of the screen decreases.

On a Long Period of Use

Due to an OLED's panel structure and characteristics of materials in its design, displaying static images for extended periods, or using the unit repeatedly in a high temperature/high humidity environments may cause image smearing, burn-in, areas of which brightness is permanently changed, lines, or a decrease in overall brightness.

In particular, continued display of an image smaller than the monitor screen, such as in a different aspect ratio, may shorten the life of the unit.
Avoid displaying a still image for an extended period, or using the unit repeatedly in a high temperature/high humidity environment such an airtight room, or around the outlet of an air conditioner.

To prevent any of the above issues, we recommend reducing brightness slightly, and to turn off the power whenever the unit is not in use.

Handling and Maintenance of the Screen

The surface of the screen is specially coated to reduce image reflection. Make sure to observe the following points as improper maintenance procedures may impair the screen's performance. In addition, the screen is vulnerable to damage. Do not scratch or knock against it using a hard object.

- Be sure to disconnect the AC power cord from the AC outlet before performing maintenance.
- The surface of the screen is specially coated. Do not attach adhesive objects, such as stickers, on it.
- The surface of the screen is specially coated. Do not touch the screen directly.
- Wipe the screen surface gently with the supplied cleaning cloth or a soft dry cloth to remove dirt.
- Stubborn stains may be removed with the supplied cleaning cloth, or a soft cloth slightly dampened with a mild detergent solution.
- The screen may become scratched if the cleaning cloth is dusty.
- Never use strong solvents such as alcohol, benzene, thinner, acidic or alkaline detergent, detergent with abrasives, or chemical wipe as these may damage the screen.
- Use a blower to remove dust from the screen surface.

On Dew Condensation

If the unit is suddenly taken from a cold to a warm location, or if ambient temperature suddenly rises, moisture may form on the outer surface of the unit and/or inside of the unit. This is known as condensation. If condensation occurs, turn off the unit and wait until the condensation clears before operating the unit. Operating the unit while condensation is present may damage the unit.

On Repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.

Disposal of the Unit

Do not dispose of the unit with general waste.
Do not include the monitor with household waste.
When you dispose of the monitor, you must obey the law in the relative area or country.

On Fan Error

The fan for cooling the unit is built in. When the fan stops and the OPERATE lamp flashes in red, the OVER RANGE lamp flashes in amber, and the ECO lamp lights in magenta on the front panel for fan error indication, turn off the power and contact an authorized Sony dealer.

If you have any questions about this unit, please contact your Sony service representative.

Features

The BVM-F250A is 25-inch Professional Video Monitor, and the BVM-F170A is 16.5-inch Professional Video Monitor.
These are suitable for television stations or video production houses, where precise image reproduction is required.

The monitor features OLED panel and "TRIMASTER[1)]", which is a new technology developed for three elements, "accurate color reproduction", "precision imaging" and "quality picture consistency," that are in demand for professional use. "TRIMASTER" decreases the viewing difference that occurs due to the individuality of each panel. Also, the monitor realizes the high picture quality and high-trust required for the master monitor by the color management system with its wide color gamut device, high-resolution/precise gradation display, highly accurate signal processing and panel correction function.

1) TRIMASTER is a trademark of Sony Corporation.

Advantages of OLED panel technology

The OLED panel makes use of an organic material, which emits light when an electric current is applied. Being self-emitting, the strength of luminescence can be controlled by the amount of electric current. This brings about the following three features:

Quick motion picture response:
The luminescent state of the OLED panel can be changed instantaneously by changing the current flow in the organic material. This enables a quick motion picture response and production of images with minimal blurring and ghosting. Furthermore, performance for shooting on location is not influenced by changes in environmental temperature.

High contrast and wide dynamic range:
The OLED panel does not emit light when black signal is applied to the monitor, enabling a pure black screen to be displayed. Furthermore, thanks to a wide dynamic range the panel impressively displays brilliance and clarity of various sparkling images, such as stars in a night sky twinkling, night illuminations winking or glass glittering, etc.

Rich color reproduction:
An OLED panel's self-luminescence also allows for great color reproduction across the entire spectrum in practically any shade or brightness.

Sony's Super Top Emission[2)] OLED panel

The 25-type (BVM-F250A) or 16.5-type (BVM-F170A) full HD (1920 × 1080) OLED panel features Sony's Super Top Emission structure. Unlike the conventional bottom emission structure of TFT, Sony's OLED panel can reproduce a crisper image due to high brightness. Furthermore, a unique microcavity structure makes RGB primary colors purer and deeper by utilizing light resonance effects that magnify optimum light wave lengths and diminish undesired light wave lengths.
The panel's 10-bit driver enables smooth gradation of color shading.

2) "Super Top Emission" is a trademark that represents the OLED technology of Sony Corporation.

12-bit precision display engine for professional use

The panel is equipped with a unique signal process engine developed for the professional use monitor. This engine incorporates 12-bit output accuracy at each process, and provides a high-quality I/P conversion algorithm, scaling processing, panel driving and a highly accurate color management system.

Multi color space

The Sony's unique OLED panel with a wide color gamut and color management system which uses the unique 3D LUT (Look Up Table) reproduces the color space that complies with the broadcast standard ITU-R BT.709, EBU and SMPTE-C accurately. A wider color space[3)] allows digital cinema reproductions.

3) The RGB chromaticity of SMPTE RP 431-2 is not covered in full.

High-quality I/P conversion processing

A high-quality picture near the original one, in which jagged lines and conversion errors are decreased by detecting the feature of the picture inside the subdivided block and processing properly, is reproduced.
The signal delay is decreased by judging the animation or still picture from the past video signal.

Interlace display mode

The interlace signal is displayed as the interlace picture by inserting the black line without I/P conversion processing. A picture faithful to the original signal and with the same feel as a CRT is gained.

For setting the display, see "Selecting Display Mode" on page 88.

Available to a multi signal format

The monitor supports various input signals such as 720 × 576/50i to 1920 × 1080/50P, 60P and variable computer signals up to 1920 × 1080. The 3G/HD/SD-SDI inputs, HDMI[4)] and DisplayPort[5)] (HDCP correspondence) inputs, and four option ports are equipped for the standard interface. If you install optional input adaptors, the monitor expands inputs of 3G-SDI, HD-SDI or SD-SDI, and supports Dual-link HD-SDI, RGB, YPbPr, Y/C, and composite signal inputs.

4) The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

5) DisplayPort, DisplayPort logo and VESA are trademarks or registered trademarks of Video Electronics Standards Association.

HD frame capture function

The frame of the 3G/HD-SDI input signal is captured and saved[6)] as a picture file in the "Memory Stick". This is used to confirm the color tone and picture angle of the current scene and recorded scene by using the multi display (Picture&Picture) function.

For the operation, see "Capturing the Picture of the HD Signal (HD Frame Capture)" on page 93.

6) As the frame of the input signal is captured, the data and marker set by the monitor is not reflected.

Multi display function

Two kinds of input signals are output on the monitor. Side by side mode is useful for adjusting the color or comparing two pictures.

For the operation, see "Displaying Two Signals on One Screen (Picture&Picture)" on page 91.

Pixel zoom function

As part of the picture is magnified up to 8 times without scaling processing, this is convenient for confirming a minute part of the signal.

For the operation, see "Magnifying the Picture (Pixel Zoom)" on page 92.

Safe area marker and aspect marker functions

The monitor is equipped with two area markers and center marker as the safe area marker and aspect marker for confirming the picture angle.

For the operation, see "Displaying the Area Marker or Aspect Marker" on page 94.

Scan selection/Native scan display function

You can select from under scan (–3%), normal scan (0%) and over scan (mask of the 5% over scan portion in the normal scan) for the picture display.
The monitor is equipped with a native scan display function which maps the pixel of the signal to the panel in one-to-one mode. You can select the mode from ×1, ×2 or Aspect Correction to display a signal in native mode. An SD signal of non-square pixels (the number of H pixels of the signal system is 720 or 1440) or a 640 × 480 SD signal of HDMI/DisplayPort video is displayed correctly by scaling processing of doubling for the V direction and correct aspect ratio for the H direction, and the picture is also optimized and displayed by modifying the aperture coefficient value, filter coefficient value, etc. in Aspect Correction mode.

For the operation, see "Selecting the Native Scan/Scan Mode" on page 90.

Aspect selectable function

A squeezed and recorded signal is displayed with the correct angle. You can select from 4:3 and 16:9 aspect modes.

Remote control function (Ethernet control)

The controller controls up to 32 monitors by the Ethernet (10BASE-T/100BASE-TX) connection. Up to four controllers are connected to one monitor in single mode. You can control individual monitors or monitor groups simply by entering the monitor ID number or group ID number. You can also execute the same operation on all connected monitors, or put all connected monitors into the same setup and adjustment state.

Time code display function

The time code superimposed on the SDI signal is displayed.

Closed caption display function

EIA/CEA-608 or EIA/CEA-708 standard closed caption signals superimposed on the SDI signals are displayed by installing the optional input adaptor (BKM-244CC).

Audio level meter display function

The audio level of the embedded audio signals superimposed on the SDI signal is displayed by installing the optional input adaptor (BKM-250TG).

3D signal analyzing function

The monitor supports the following display modes of the 3D signal analyzing function if you install the optional input adaptor (BKM-250TG). For this function, two-dimensional (2D) view is used. The signals are not displayed in stereoscopic view.
The available display modes differ depending on the serial number of the BKM-250TG.

For the operation, see "Switching the Display of the 3D Video Signal" on page 96.

Difference display (with serial number 7300001 or higher):
The difference between the luminance signal of the left (L) 3D video signal and that of the right (R) signal is displayed. This display is useful for checking parallax amount.

Checkerboard display (with serial number 7100001 or higher):
The left (L) and right (R) 3D video signals are displayed in a checkerboard pattern on the screen. This display is useful for comparing the luminance or color settings of neighboring L and R images.

L/R switching display (with serial number 7100001 or higher):
The dual-stream left (L) and right (R) 3D video signals are alternately displayed on the screen. This display is useful for comparing the color or brightness of the L and R

signals, as a black frame is not inserted when the two signals are switched.

Horopter check display (with serial number 7100001 or higher):
Either left (L) or right (R) 3D video signals, or both L and R signals are displayed in monochrome mode. This display is useful for checking a subtle depth of a subject located in the boundary plane of the screen, that is, whether it is near or far from the screen surface.

Horizontal flip display (with serial number 7100001 or higher):
The input 3D video signals whose left (L) or right (R) signal has been inverted horizontally by a half-mirror type 3D rig are displayed as non-inverted images.

Note

The horizontal flip display function of this monitor inverts the input signals to display them. Since the internal sync is applied to any signal delayed by the inversion, there is a time lag between input and the displayed image.

Screen saver
When a nearly still image is displayed continuously for 10 minutes or more, the screen saver starts automatically to reduce the brightness of the screen to prevent burn-in.

Variable picture adjustment functions
Auto chroma, phase and matrix adjustment functions are equipped.

Other features
- The color temperature is selectable from D65, D93 and User.
- Built-in test pattern for 100% white signal, 20% gray signal, 0% black signal, PLUGE (Picture Line Up Generation Equipment) signal, color-bar signal, 5 step gray scale signal and ramp signal.
- Chroma Up function that increases the chroma setting by 12 dB.
- Blue only function and RGB cut off function to monitor signal noise.
- A parallel remote of the contact point control connector is equipped.

Options

For external control

BKM-16R Monitor Control Unit
The BKM-16R is a controller of the BVM-F250A/F170A and you can control multiple monitors from one controller.

In this manual, the BKM-16R is referred to as the controller.

For installation

BKM-37H/BKM-38H Controller Attachment Stand (for BVM-F250A only)
Used to join a BKM-16R and the BVM-F250A.
Using the BKM-37H, you can adjust the monitor angle up or down.

BKM-39H Controller Attachment Stand (for BVM-F170A only)
Used to join a BKM-16R and the BVM-F170A.

SMF-700 Monitor Interface Cable
Used to connect the BVM-F250A/F170A to the BKM-16R.

Input adaptors
The input connector panel is composed by installing the optional input adaptor into the input option port on the monitor. Up to four adaptors can be installed to the monitor.
The input signal type for each connector of the adaptor is set with the Channel Configuration menu, in accordance with the configuration of the connector panel.

Note

When installing the adaptor, be sure to perform the necessary input signal setup with the Channel Configuration menu. If the setup is not performed, the adaptors may not function correctly.

For information about the Channel Configuration menu, see page 55.

For details of each input adaptor, refer to the operating instructions of each model.

BKM-220D SDI 4:2:2 Input Adaptor
Includes a decoder for serial digital signals (525/625 component). Input/output connectors for two serial digital channels and output connector for one monitor channel are equipped.

BKM-227W NTSC/PAL Input Adaptor

Includes a decoder for NTSC/PAL/PAL-M/SECAM signals. Input/output connectors for each one composite signal channel and Y/C signal channel are equipped.

BKM-229X Analog Component Input Adaptor

Includes a decoder for analog component signals and analog RGB signals. Input connector for one channel is equipped.

BKM-243HS HD/D1-SDI Input Adaptor

Includes a decoder for serial digital component signals. Input/output connectors for two serial digital channels and output connector for one monitor channel are equipped.

BKM-244CC HD/SD-SDI Closed Caption Adaptor

Includes a decoder for serial digital component signals. EIA/CEA-608 or EIA/CEA-708 standard closed caption signals superimposed on the SDI signals are decoded and displayed. Input/output connectors for two serial digital channels and output connector for one monitor channel are equipped.

BKM-250TG 3G/HD/SD-SDI Input Adaptor

Includes a decoder for serial digital component signals. Time code and audio level of the embedded audio signals superimposed on the SDI signals are displayed. 3D signal analyzing function is also supported. Input/output connectors for two serial digital channels and output connector for two monitor channels are equipped.

Notes

- The signal from the MONITOR OUT connector of the BKM-220D, BKM-243HS, BKM-244C and BKM-250TG does not satisfy the ON-LINE signal specifications.
- An input adaptor with a specified serial number may be required for your intended use. For the serial numbers of the input adaptors available for this unit, see “Input Adaptors” (page 22).

Input/Output Connectors and Input Adaptors

This monitor is equipped with two 3G/HD/SD-SDI input connectors, an HDMI input connector, and a DisplayPort input connector for the standard interface.
In this manual, these connectors are referred to as the standard input.
By adding the optional input expansion adaptors, the input/output connector panel can be assembled in a wide variety of configurations.
The signals that each connector supports are given in the following table. The type of signal to be applied to each input/output connector is set with the Channel Configuration menu (page 55) .

List of input/output connectors and input adaptors

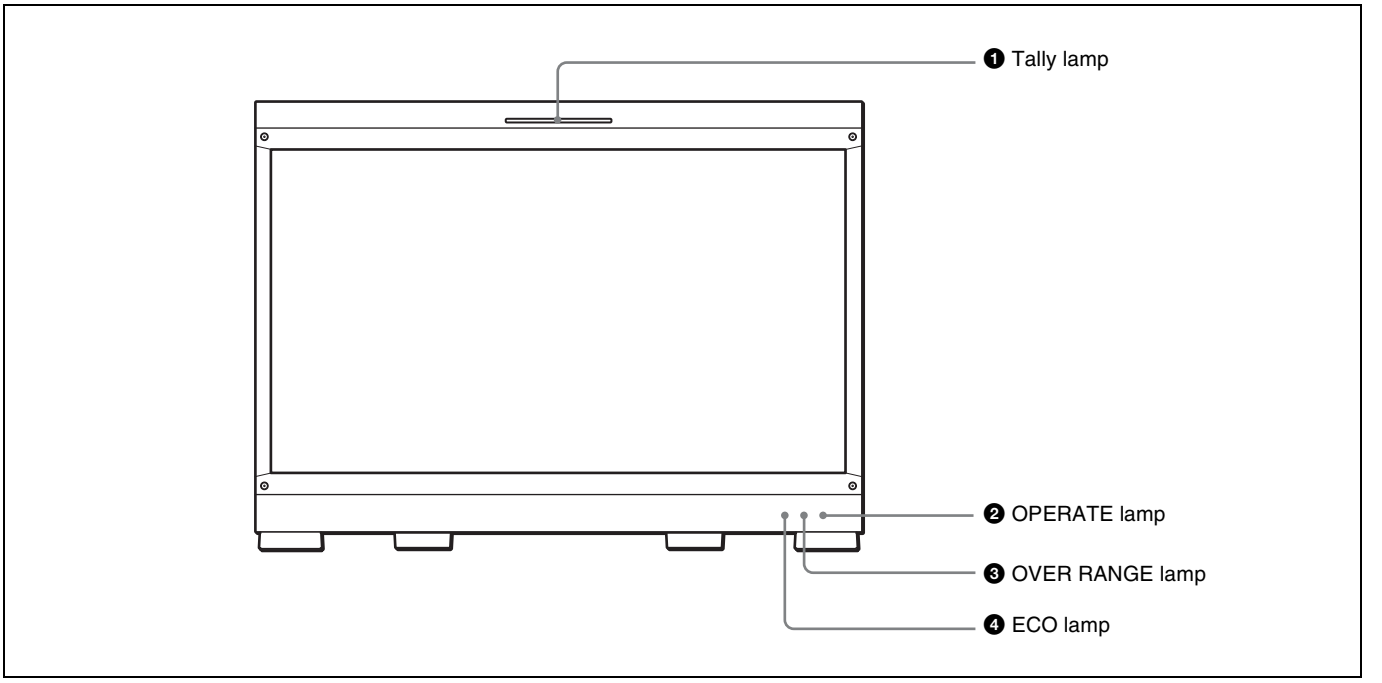
Input signal		Standard input	Input adaptor				
			BKM-220D	BKM-227W	BKM-229X	BKM-243HS/244CC	BKM-250TG
Serial digital input	Single-link SD-SDI Component 525/625	○	○			○	○
	Single-link HD-SDI	○				○	○
	Dual-link HD-SDI					○ (2)	○
	Single-link 3G-SDI	○					○
Analog input	Composite NTSC			○			
	Composite PAL			○			
	Composite PAL-M			○			
	Composite SECAM			○			
	Y/C NTSC			○			
	Y/C PAL			○			
	Y/C PAL-M			○			
	Y/C SECAM			○			
	YPbPr 525i/625i				○		
	RGB 525i/625i				○		
	YPbPr/RGB 1080/24PsF				○		
	YPbPr/RGB 1080/24P				○		
	YPbPr/RGB 1080/50i (25PsF)				○		
	YPbPr/RGB 1080/25P				○		
	YPbPr/RGB 1080/60i (30PsF)				○		
	YPbPr/RGB 1080/30P				○		
	YPbPr/RGB 720/50P				○		
	YPbPr/RGB 720/60P				○		
HDMI	Video	○					
	Computer	○					
DisplayPort	Video	○					
	Computer	○					
Number of digital inputs		2	2	–	–	2	2
Number of analog inputs		–	–	1	1	–	–
Number of HDMI inputs		1	–	–	–	–	–
Number of DisplayPort input		1	–	–	–	–	–

○: Signal can be reproduced.
○(2): Two adaptors are used.

For details, see "Available Signal Formats" on page 113.

Location and Function of Parts (BVM-F250A)

Front Panel



❶ Tally lamp

With factory settings, the tally lamp lights when pins No. 8 and No. 9 of the PARALLEL REMOTE connector on the left side panel are shorted. By changing the setting in the Parallel Remote menu (page 73) of the System Configuration menu, different pins on the PARALLEL REMOTE connector can be used to control the tally lamp.

❷ OPERATE lamp

When the MAIN POWER switch (on the left side panel) is turned on, internal data initialization starts and the OPERATE lamp flashes in red for a while. When the signal is output, the lamp flashes in green to indicate that data initialization continues. When initialization is finished and the monitor enters its operation mode, the lamp lights in green.

The OPERATE lamp is lit in red when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:

- Standby Mode is set to On in the Power menu (page 74) of the System Configuration menu and the MAIN POWER switch (on the left side panel) is turned on. (The OPERATE lamp will flash for initialization after the switch is turned on, then will light.)
- The monitor is changed from operation mode to standby mode by external control.

Lights in green when the monitor is put into operation mode from standby mode by pressing the MONITOR I/⏻ switch of the controller.

Notes

- When the OPERATE lamp is flashing in red, the monitor cannot be put into operation mode. Wait until the lamp is steadily lit.
- When the OPERATE lamp is flashing in green, the monitor is not in full operation mode and images cannot be displayed correctly. Wait until the lamp is steadily lit in green.

The OPERATE lamp may indicate an error or warning. For details, see "Error/warning display by the lamp" (page 15).

❸ OVER RANGE lamp

Lights in amber when ABL (Automatic Brightness Limiter) starts. Also lights in amber when the signal level has exceeded the dynamic range of the signal processing circuit.

Decrease the contrast or brightness when the OVER RANGE lamp is lit.

The OVER RANGE lamp may indicate an error or warning. For details, see "Error/warning display by the lamp" (page 15).

❹ ECO lamp

The color of the lamp changes according to the power consumption status of the monitor. The color changes from green to yellow to magenta in order of greater power consumption. Decreasing the luminance of the screen by adjusting brightness/contrast is recommended when the lamp lights in yellow or magenta.
The lamp starts flashing rapidly approximately one minute before the screen saver is activated. Flashing slows in green when the screen saver starts.

The ECO lamp may indicate an error or warning. For details, see "Error/warning display by the lamp" (page 15).

Error/warning display by the lamp

The OVER RANGE lamp, OPERATE lamp and/or ECO lamp on the front panel may show an error or warning while the monitor is being operated.

If the error or warning is shown, please contact your Sony representative.

Error display

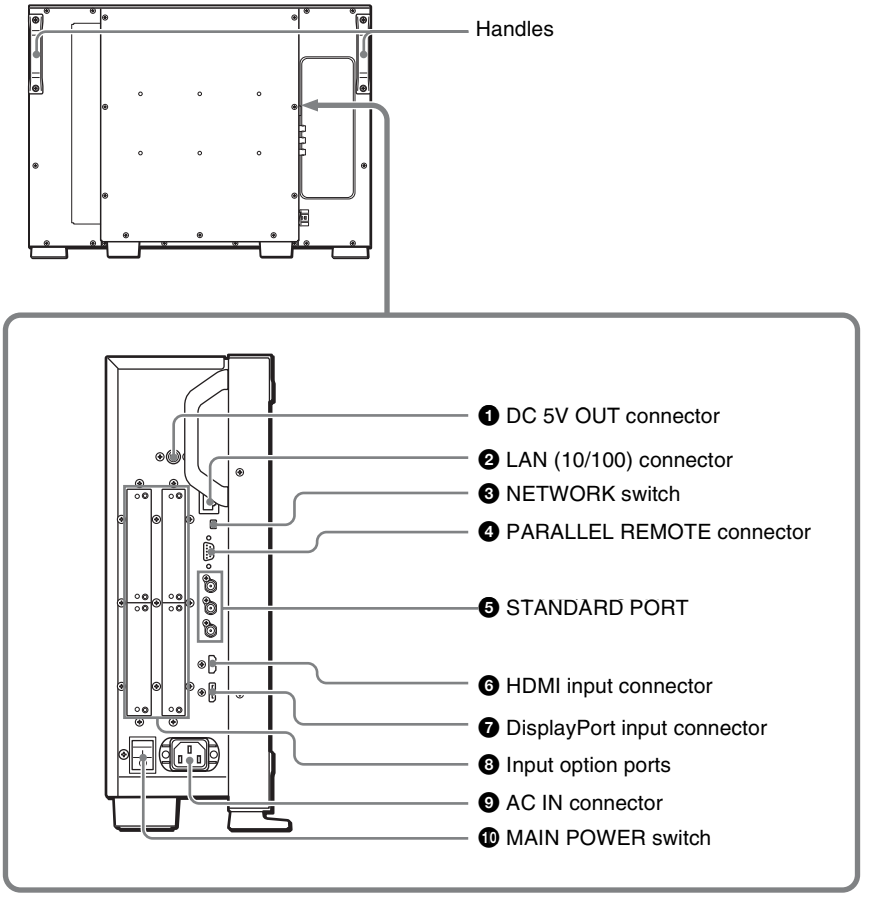
ECO lamp	OVER RANGE lamp	OPERATE lamp	Symptoms
Lights in yellow	Lights in amber	Flashes in red	The power in the panel part is unusual.
Lights in yellow	Flashes in amber	Flashes in red	The temperature in the panel part is unusual.
Flashes in yellow	Lights in amber	Flashes in red	The ambient temperature sensor is unusual.
Lights in magenta	Flashes in amber	Flashes in red	Fan error.
Flashes in magenta	Lights in amber	Flashes in red	Device error.

Warning display

ECO lamp	OVER RANGE lamp	OPERATE lamp	Symptoms
–	Flashes in amber	–	The luminance is reduced to protect the panel from an increase of temperature in the panel part.
–	Lights in amber	–	Over range

–: Status except for error display.

Rear Panel/Left Side Panel



❶ DC 5V OUT connector (female)
Supplies the DC power to the controller.
Connect to the DC 5V/12V IN connector of the controller with the SMF-700 or the cable supplied with the BKM-37H/38H.

CAUTION
DC 5V OUT connector (female) is non LPS (Limited Power Source) circuit.

❷ LAN (10/100) connector (10BASE-T/100BASE-TX)
Connect to the LAN (10/100) connector of the controller by using the SMF-700 or the cable supplied with the BKM-37H/38H. Or connect to the network or the LAN (10/100) connector of the controller by using a 10BASE-T/100BASE-TX LAN cable (shielded-type, optional).

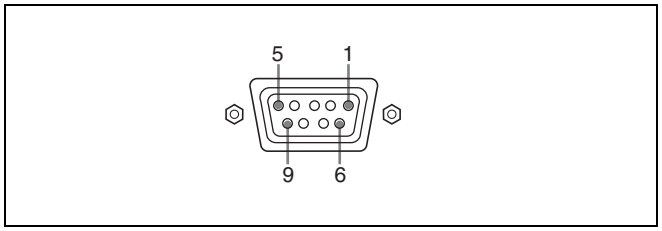
CAUTION
- For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port. Follow the instructions for this port.
- When you connect the LAN cable of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.
- The connection speed may be affected by the network system.

❸ NETWORK switch

LAN: To connect to the network.
PEER TO PEER: To connect to the LAN (10/100) connector of the controller in 1 to 1 connection.

❹ PARALLEL REMOTE connector (D-sub 9-pin, female)

Forms a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.



Pin number	Function
1	Sets input signal channel 1 (numeric keypad function).
2	Sets input signal channel 2 (numeric keypad function).
3	Selects sync signal (SYNC button function).
4	Selects whether monochrome image is displayed or the monitor switches the display mode automatically between color image and monochrome image depending on the input signal (MONO button function).
5	Marker (set in the Marker Setting menu) On/Off (MARKER button function).
6, 7	Not connected
8	Tally lamp On/Off
9	Ground

All pin function assignments can be changed with the Parallel Remote menu (page 73) of the System Configuration menu.

To switch each function between On and Off or between enable and disable, change pin connections in the following way.
On or enabled: Short each pin and pin 9 together.
Off or disabled: Leave each pin open.

❺ STANDARD PORT

SDI INPUT 1 connector
Inputs serial digital signals (standard SDI input 1).

SDI INPUT 2 connector
Inputs serial digital signals (standard SDI input 2).

MONITOR OUT connector
This is the MONITOR OUT connector for SDI INPUT 1 or SDI INPUT 2 connector.

Note

The signal from this MONITOR OUT connector does not satisfy the ON-LINE signal specifications.

❻ HDMI input connector

Inputs the HDMI signal.
HDMI (High-Definition Multimedia Interface) is an interface that supports both video and audio on a single digital connection, allowing you to display high quality digital picture. The HDMI specification supports HDCP (High-bandwidth Digital Content Protection), a copy protection technology that incorporates coding technology for digital video signals.

Notes

- The HDMI audio signal is not available for this monitor.
- Use HDMI compliant cable (optional), Category 2 (High Speed HDMI Cable), with HDMI logo.

❼ DisplayPort input connector

Inputs the DisplayPort signal.
DisplayPort is an interface developed by VESA that supports transfer of both video and audio digital signals on a single cable.
It also supports HDCP, a copy protection technology that incorporates coding technology for digital video signals.

Note

This monitor does not support DisplayPort audio signals.

❽ Input option ports

Used to install the optional input adaptors.

For installing the input adaptor, see page 23.

For the input signals, see "Input/Output Connectors and Input Adaptors" on page 13.

❾ AC IN connector (3-pin)

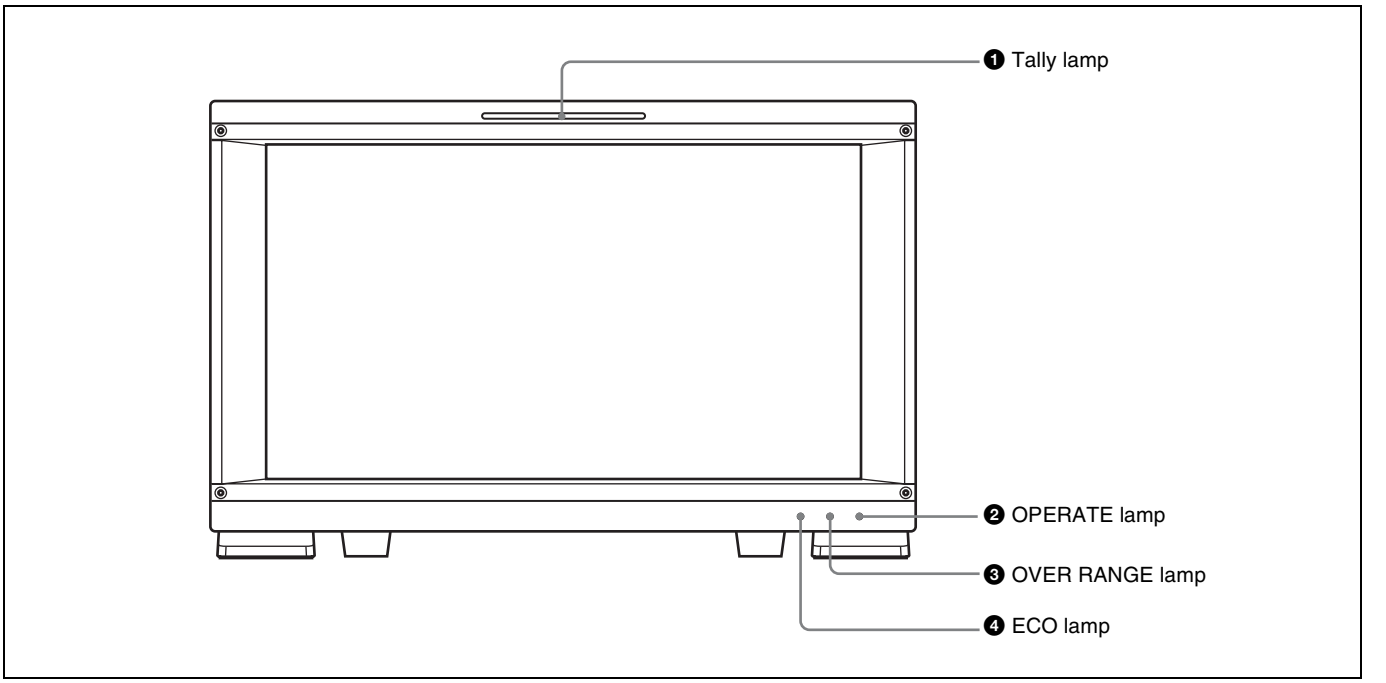
Connects the monitor to an AC power source, via the supplied AC power cord.

❿ MAIN POWER switch

When turned on (**I**), the monitor enters operation mode. By setting in the Power menu (page 74) of the System Configuration menu, the monitor can also be set to enter standby mode when the MAIN POWER switch is turned on.

Location and Function of Parts (BVM-F170A)

Front Panel



❶ Tally lamp

With factory settings, the tally lamp lights when pins No. 8 and No. 9 of the PARALLEL REMOTE connector on the rear panel are shorted. By changing the setting in the Parallel Remote menu (page 73) of the System Configuration menu, different pins on the PARALLEL REMOTE connector can be used to control the tally lamp.

❷ OPERATE lamp

When the MAIN POWER switch (on the rear panel) is turned on, internal data initialization starts and the OPERATE lamp flashes in red for a while. When the signal is output, the lamp flashes in green to indicate that data initialization continues. When initialization is finished and the monitor enters its operation mode, the lamp lights in green.

The OPERATE lamp is lit in red when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:

- Standby Mode is set to On in the Power menu (page 74) of the System Configuration menu and the MAIN POWER switch (on the rear panel) is turned on. (The OPERATE lamp will flash for initialization after the switch is turned on, then will light.)
- The monitor is changed from operation mode to standby mode by external control.

Lights in green when the monitor is put into operation mode from standby mode by pressing the MONITOR I/⏻ switch of the controller.

Notes

- When the OPERATE lamp is flashing in red, the monitor cannot be put into operation mode. Wait until the lamp is steadily lit.
- When the OPERATE lamp is flashing in green, the monitor is not in full operation mode and images cannot be displayed correctly. Wait until the lamp is steadily lit in green.

The OPERATE lamp may indicate an error or warning. For details, see "Error/warning display by the lamp" (page 19).

❸ OVER RANGE lamp

Lights in amber when ABL (Automatic Brightness Limiter) starts. Also lights in amber when the signal level has exceeded the dynamic range of the signal processing circuit.

Decrease the contrast or brightness when the OVER RANGE lamp is lit.

The OVER RANGE lamp may indicate an error or warning. For details, see "Error/warning display by the lamp" (page 19).

❹ ECO lamp

The color of the lamp changes according to the power consumption status of the monitor. The color changes from green to yellow to magenta in order of greater power consumption. Decreasing the luminance of the screen by adjusting brightness/contrast is recommended when the lamp lights in yellow or magenta.
The lamp starts flashing rapidly approximately one minute before the screen saver is activated. Flashing slows in green when the screen saver starts.

The ECO lamp may indicate an error or warning. For details, see "Error/warning display by the lamp" (page 19).

Error/warning display by the lamp

The OVER RANGE lamp, OPERATE lamp and/or ECO lamp on the front panel may show an error or warning while the monitor is being operated.

If the error or warning is shown, please contact your Sony representative.

Error display

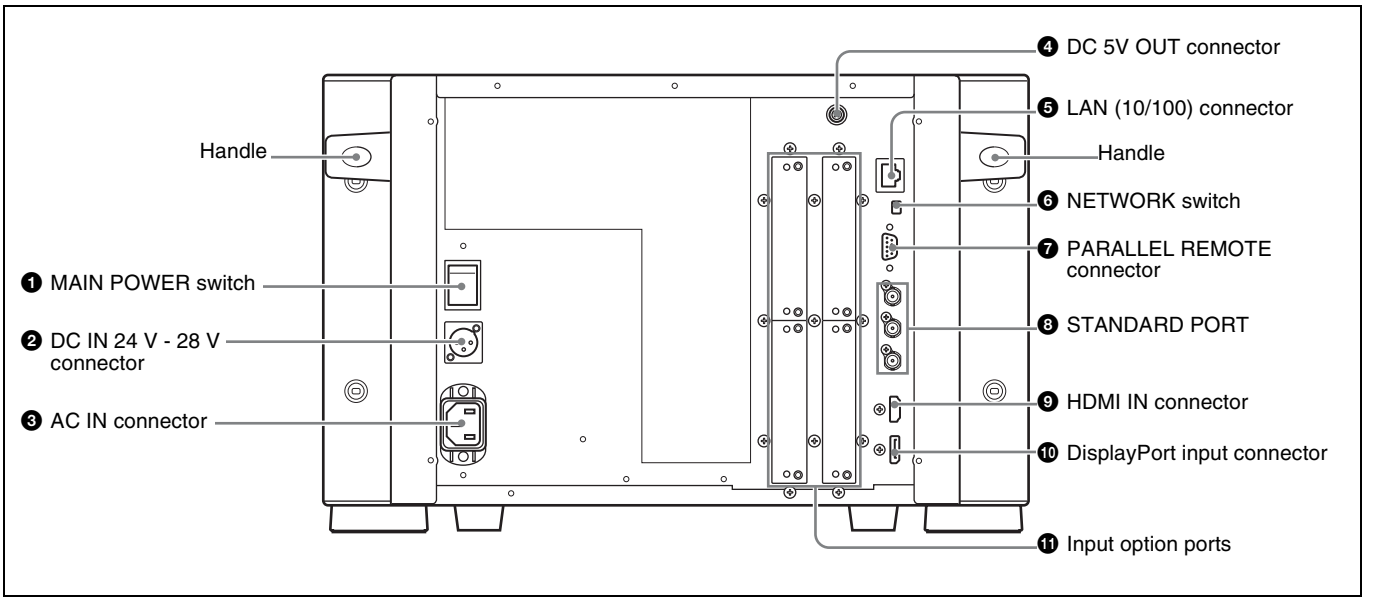
ECO lamp	OVER RANGE lamp	OPERATE lamp	Symptoms
Lights in yellow	Lights in amber	Flashes in red	The power in the panel part is unusual.
Lights in yellow	Flashes in amber	Flashes in red	The temperature in the panel part is unusual.
Flashes in yellow	Lights in amber	Flashes in red	The ambient temperature sensor is unusual.
Lights in magenta	Flashes in amber	Flashes in red	Fan error.
Flashes in magenta	Lights in amber	Flashes in red	Device error.

Warning display

ECO lamp	OVER RANGE lamp	OPERATE lamp	Symptoms
–	Flashes in amber	–	The luminance is reduced to protect the panel from an increase of temperature in the panel part.
–	Lights in amber	–	Over range

–: Status except for error display.

Rear Panel

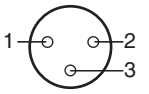


❶ MAIN POWER switch

When turned on, the monitor enters operation mode. By setting in the Power menu (page 74) of the System Configuration menu, the monitor can also be set to enter standby mode when the MAIN POWER switch is turned on.

❷ DC IN 24 V - 28 V (DC power input) connector (XLR 3-pin, male)

Connect the 24 V to 28 V DC power supply.



Pin number	Function
1	– (GND)
2	+ (24 V to 28 V DC)
3	NC

❸ AC IN connector (3-pin)

Connects the monitor to an AC power source, via the supplied AC power cord.

❹ DC 5V OUT connector (female)

Supplies the DC power to the controller.
Connect to the DC 5V/12V IN connector of the controller with the SMF-700 or the cable supplied with the BKM-39H.

CAUTION

DC 5V OUT connector (female) is non LPS (Limited Power Source) circuit.

❺ LAN (10/100) connector (10BASE-T/100BASE-TX)

Connect to the LAN (10/100) connector of the controller by using the SMF-700 or the cable supplied with the BKM-39H. Or connect to the network or the LAN (10/100) connector of the controller by using a 10BASE-T/100BASE-TX LAN cable (shielded-type, optional).

CAUTION

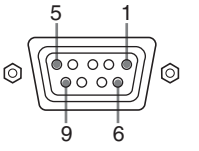
- For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port. Follow the instructions for this port.
- When you connect the LAN cable of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.
- The connection speed may be affected by the network system.

❻ NETWORK switch

LAN: To connect to the network.
PEER TO PEER: To connect to the LAN (10/100) connector of the controller in 1 to 1 connection.

❼ PARALLEL REMOTE connector (D-sub 9-pin, female)

Forms a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.



Pin number	Function
1	Sets input signal channel 1 (numeric keypad function).
2	Sets input signal channel 2 (numeric keypad function).
3	Selects sync signal (SYNC button function).
4	Selects whether monochrome image is displayed or the monitor switches the display mode automatically between color image and monochrome image depending on the input signal (MONO button function).
5	Marker (set in the Marker Setting menu) On/Off (MARKER button function).
6, 7	Not connected
8	Tally lamp On/Off
9	Ground

All pin function assignments can be changed with the Parallel Remote menu (page 73) of the System Configuration menu.

To switch each function between On and Off or between enable and disable, change pin connections in the following way.
On or enabled: Short each pin and pin 9 together.
Off or disabled: Leave each pin open.

❽ STANDARD PORT

SDI INPUT 1 connector
Inputs serial digital signals (standard SDI input 1).

SDI INPUT 2 connector
Inputs serial digital signals (standard SDI input 2).

MONITOR OUT connector
This is the MONITOR OUT connector for SDI INPUT 1 or SDI INPUT 2 connector.

Note

The signal from this MONITOR OUT connector does not satisfy the ON-LINE signal specifications.

❾ HDMI IN connector

Inputs the HDMI signal.
HDMI (High-Definition Multimedia Interface) is an interface that supports both video and audio on a single digital connection, allowing you to display high quality digital picture. The HDMI specification supports HDCP (High-bandwidth Digital Content Protection), a copy protection technology that incorporates coding technology for digital video signals.

Notes

- The HDMI audio signal is not available for this monitor.
- Use HDMI compliant cable (optional), Category 2 (High Speed HDMI Cable), with HDMI logo.

❿ DisplayPort input connector

Inputs the DisplayPort signal.
DisplayPort is an interface developed by VESA that supports transfer of both video and audio digital signals on a single cable.
It also supports HDCP, a copy protection technology that incorporates coding technology for digital video signals.

Note

This monitor does not support DisplayPort audio signals.

⓫ Input option ports

Used to install the optional input adaptors.

For installing the input adaptor, see page 25.

For the input signals, see "Input/Output Connectors and Input Adaptors" on page 13.

Preparations

Chapter 2

Environments of the Installation Location

Illumination environments

The apparent color reproduction on the monitor is greatly affected by ambient light or glare.

Viewing angle

The ideal viewing angle is within 5 degrees (up/down/left/right) off the center of the monitor screen when the operator views the entire monitor screen. Keep the viewing angle within 15 degrees off the center of the monitor screen.

Input Adaptors

Each input adaptor can be installed in any input option port on the monitor.

Caution

When you install the following input adaptors to this equipment, use those with the serial numbers given below.

- BKM-220D with serial number 2100001 or higher
  This equipment may not meet the requirements of the electromagnetic interference standard if designated input adaptors are not installed.
- BKM-227W with serial number 2100001 or higher
  This equipment may not work correctly or you may not be satisfied with their performance if designated input adaptors are not installed.
- BKM-229X with serial number 2200001 or higher
  This equipment may not work correctly or you may not be satisfied with their performance if designated input adaptors are not installed.
- BKM-243HS with serial number 2108355 or higher
  This equipment may not meet the requirements of the electromagnetic interference standard or work correctly, or you may not be satisfied with the performance if designated input adaptors are not installed.
- BKM-250TG with serial number 7300001 or higher
  To enable all five display modes of the 3D signal analyzing function, use the input adaptor with serial number 7300001 or higher.

Caution

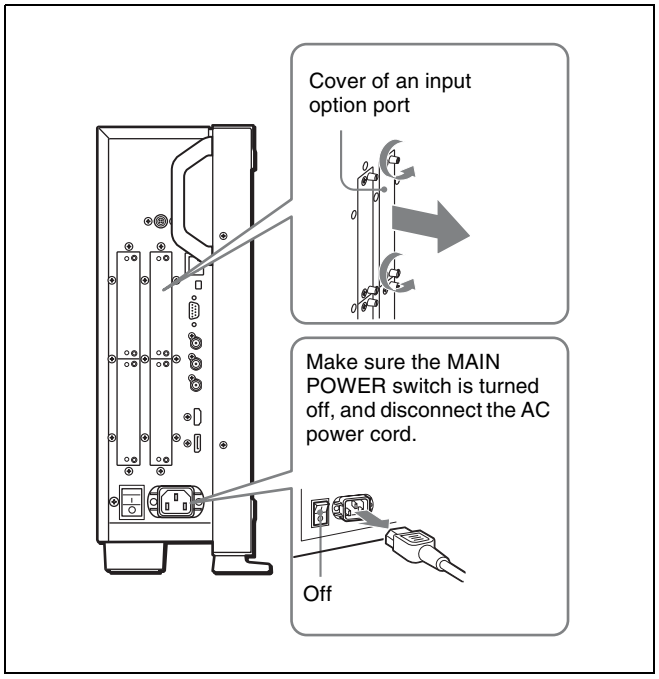
To reduce the risk of electric shock, turn off the MAIN POWER switch of the monitor and disconnect the AC power cord before installing or removing adaptors.

Version of the Controller

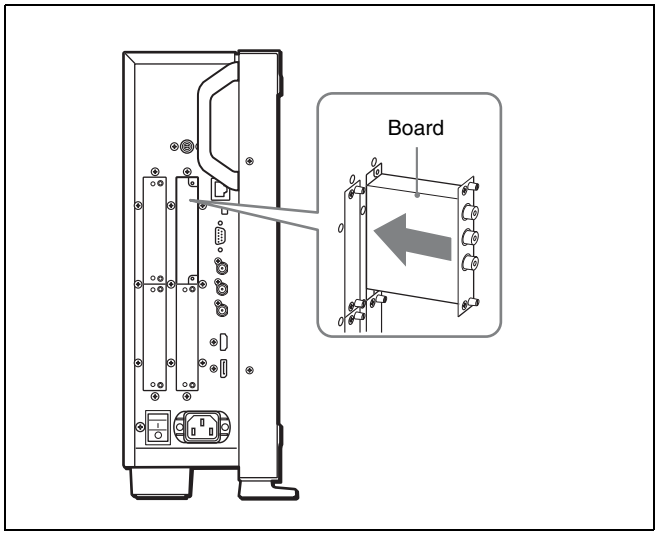
To use all the functions of the monitor, the controller (BKM-16R) with software version 1.7 or higher is required.
Certain functions of the monitor cannot be controlled if the controller with a lower version is used.

Installing an Input Adaptor (BVM-F250A)

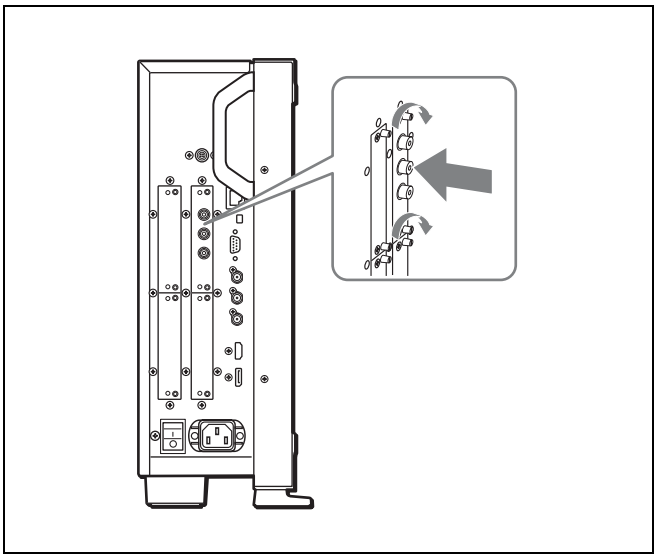
1 Loosen two screws and remove the cover of an input option port on the side panel of the monitor.



2 Insert the adaptor facing the board as shown below.



3 Push the adaptor in until it is firmly fit into the connector inside the monitor, then tighten the two screws to secure the adaptor.



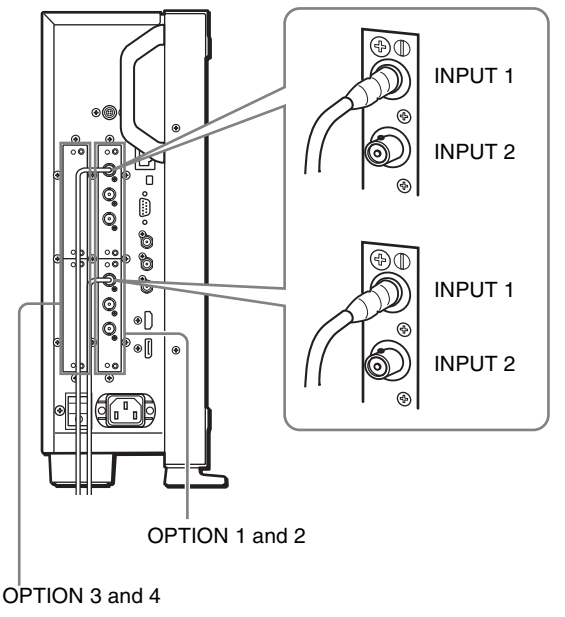
For connecting Dual-link HD-SDI signals

Two BKM-243HS or BKM-244CC input adaptors or one BKM-250TG input adaptor is required. When the BKM-243HS or BKM-244CC adaptors are used, install the input adaptors in OPTION 1 and 2 option ports, or OPTION 3 and 4 option ports. The BKM-243HS or BKM-244CC cannot be used with the BKM-250TG for Dual-link operation.

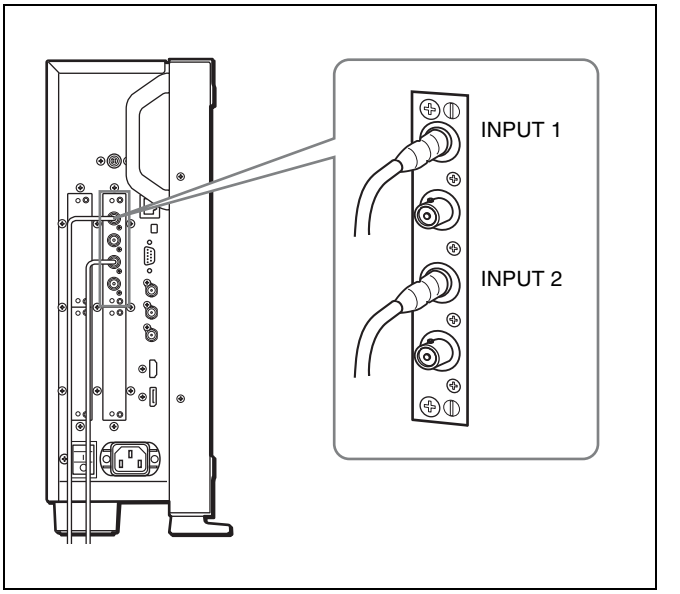
To connect the cable

When the BKM-243HS or BKM-244CC adaptors are used, install the Link A signal to OPTION 1 or 3, and the Link B signal to OPTION 2 or 4.
Connect the cable to the same input number (both INPUT 1 or both INPUT 2) of the input adaptors installed in OPTION 1 and 2 option ports, or OPTION 3 and 4 option ports.

Example of Dual-link cable connection



When the BKM-250TG is used, install the Link A signal to INPUT 1, and the Link B signal to INPUT 2.

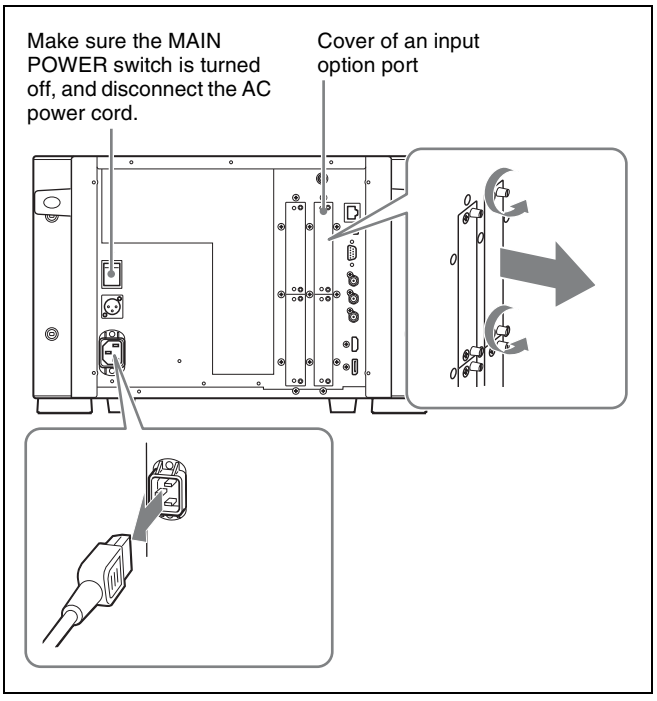


For 3D signal analyzing function

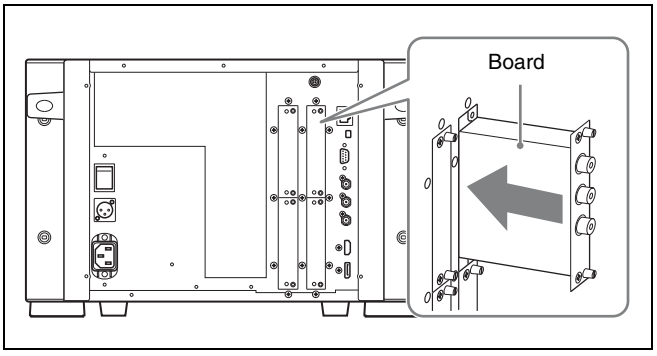
Use a 3D-compatible BKM-250TG (with serial number 7300001 or higher) and input the left 3D signal to INPUT 1 and the right signal to INPUT 2.

Installing an Input Adaptor (BVM-F170A)

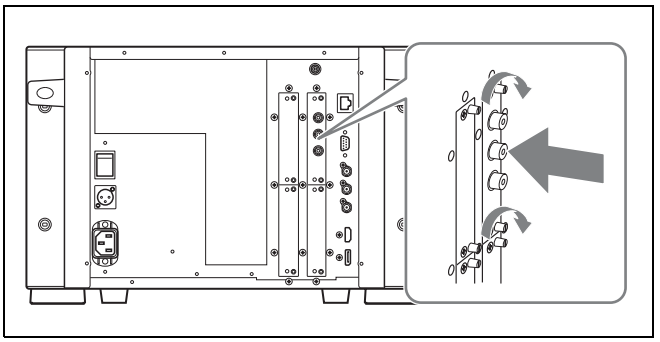
1 Loosen two screws and remove the cover of an input option port on the rear panel of the monitor.



2 Insert the adaptor facing the board as shown below.



3 Push the adaptor in until it is firmly fit into the connector inside the monitor, then tighten the two screws to secure the adaptor.



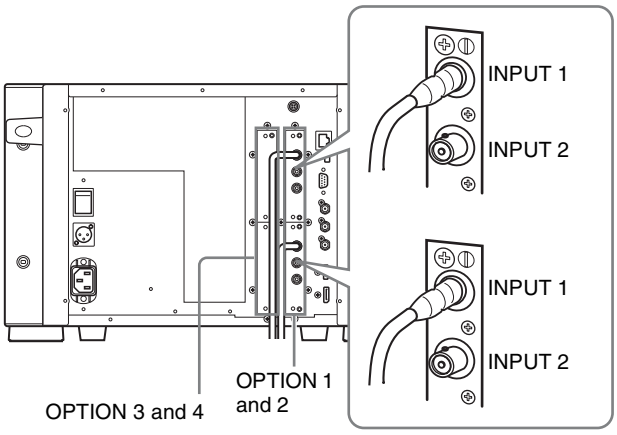
For connecting Dual-link HD-SDI signals

Two BKM-243HS or BKM-244CC input adaptors or one BKM-250TG input adaptor is required. When the BKM-243HS or BKM-244CC adaptors are used, install the input adaptors in OPTION 1 and 2 option ports, or OPTION 3 and 4 option ports. The BKM-243HS or BKM-244CC cannot be used with the BKM-250TG for Dual-link operation.

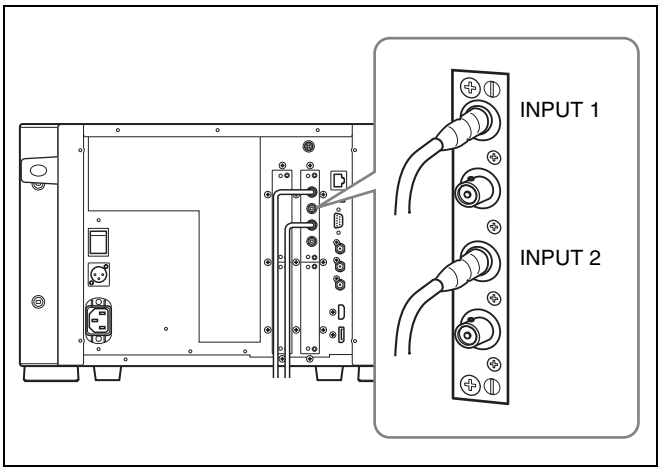
To connect the cable

When the BKM-243HS or BKM-244CC adaptors are used, install the Link A signal to OPTION 1 or 3, and the Link B signal to OPTION 2 or 4.
Connect the cable to the same input number (both INPUT 1 or both INPUT 2) of the input adaptors installed in OPTION 1 and 2 option ports, or OPTION 3 and 4 option ports.

Example of Dual-link cable connection



When the BKM-250TG is used, install the Link A signal to INPUT 1, and the Link B signal to INPUT 2.

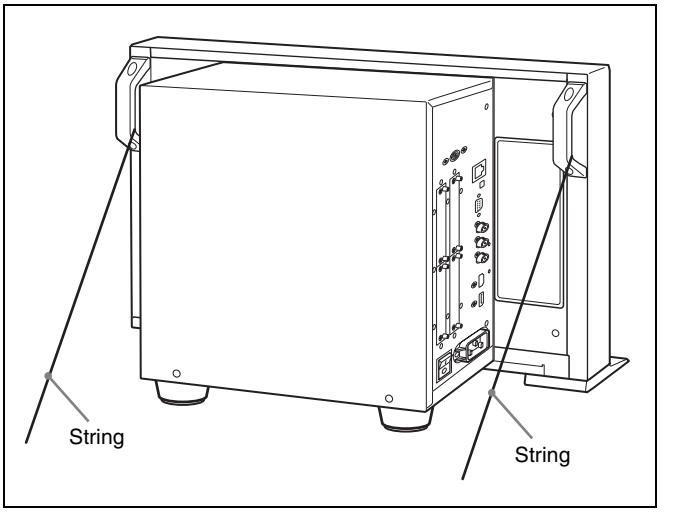


For 3D signal analyzing function

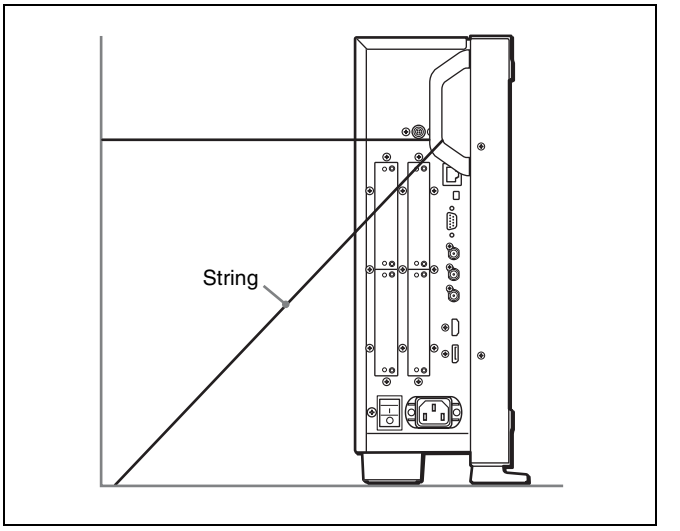
Use a 3D-compatible BKM-250TG (with serial number 7300001 or higher) and input the left 3D signal to INPUT 1 and the right signal to INPUT 2.

Preventing Falling of the Monitor (BVM-F250A)

1 Tie a piece of stout string (commercially available) to the left and right handles of the monitor.



2 Secure the ends of the string to the floor or wall.

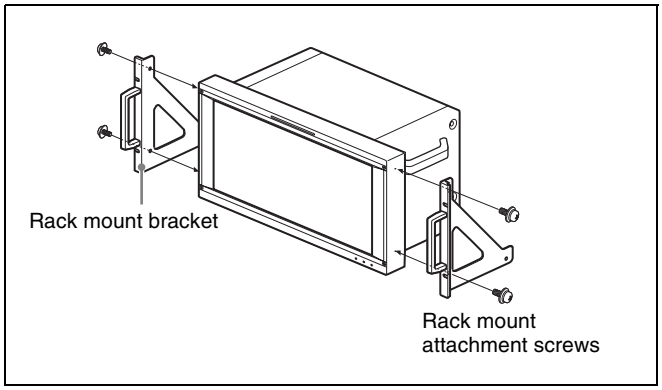


Mounting the Unit in a Rack (BVM-F170A)

To mount the unit in an EIA standard 19-inch rack, use the supplied rack mount brackets and screws.

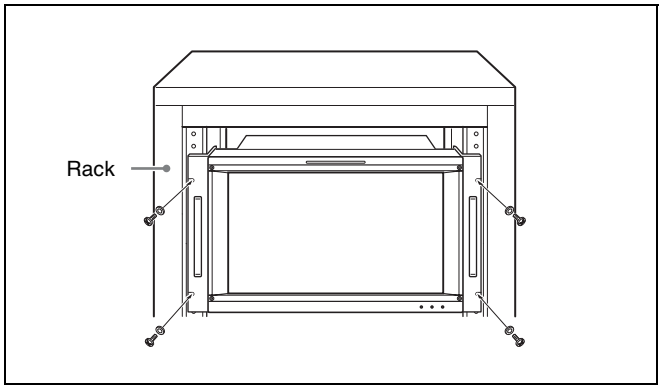
1 Remove the four feet from the bottom of the unit.

2 Attach the rack mount brackets to each side of the unit with the rack mount attachment screws.



3 Screw the rack mount brackets to the rack to mount the unit.

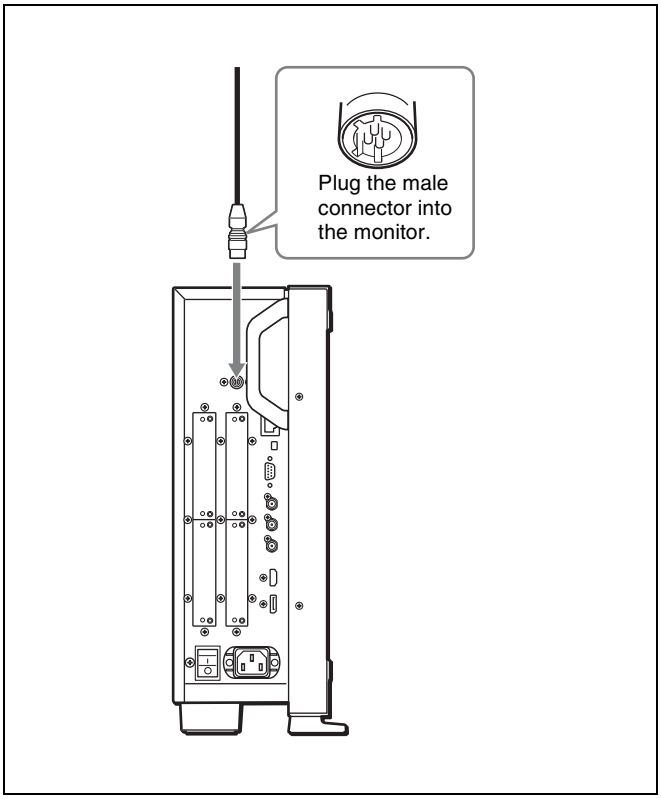
Use the commercially available screws that match the size of the rack's holes.



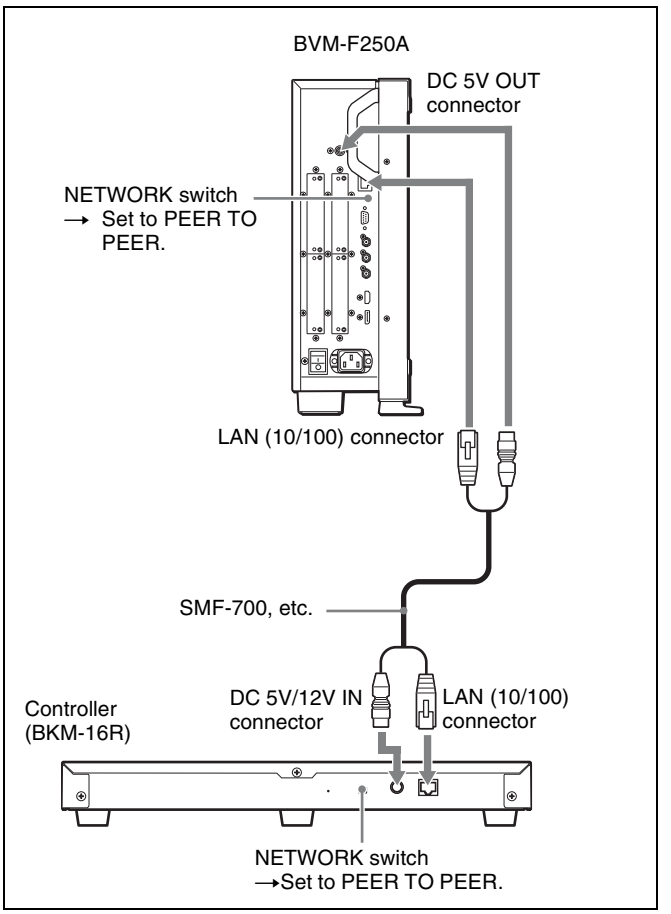
Connections (BVM-F250A)

Note on connecting the cable to the DC 5V OUT connector

Be sure to plug the male connector of the cable into the DC 5V OUT connector of the monitor.
Insert the connector so as to fit the shape of the DC 5V OUT connector.



Connecting the Controller (BKM-16R)



1 Turn off the MAIN POWER switch of the monitor before connecting the units.

2 Set the NETWORK switches of the monitor and the controller to PEER TO PEER.

3 Connect the LAN (10/100) connector of the monitor and the LAN (10/100) connector of the controller by using the SMF-700 or the cable supplied with the BKM-37H/38H, or a 10BASE-T/100BASE-TX straight LAN cable (shielded-type, optional).

Note

When an optional LAN cable is connected, use a shielded-type cable to prevent a malfunction due to noises.

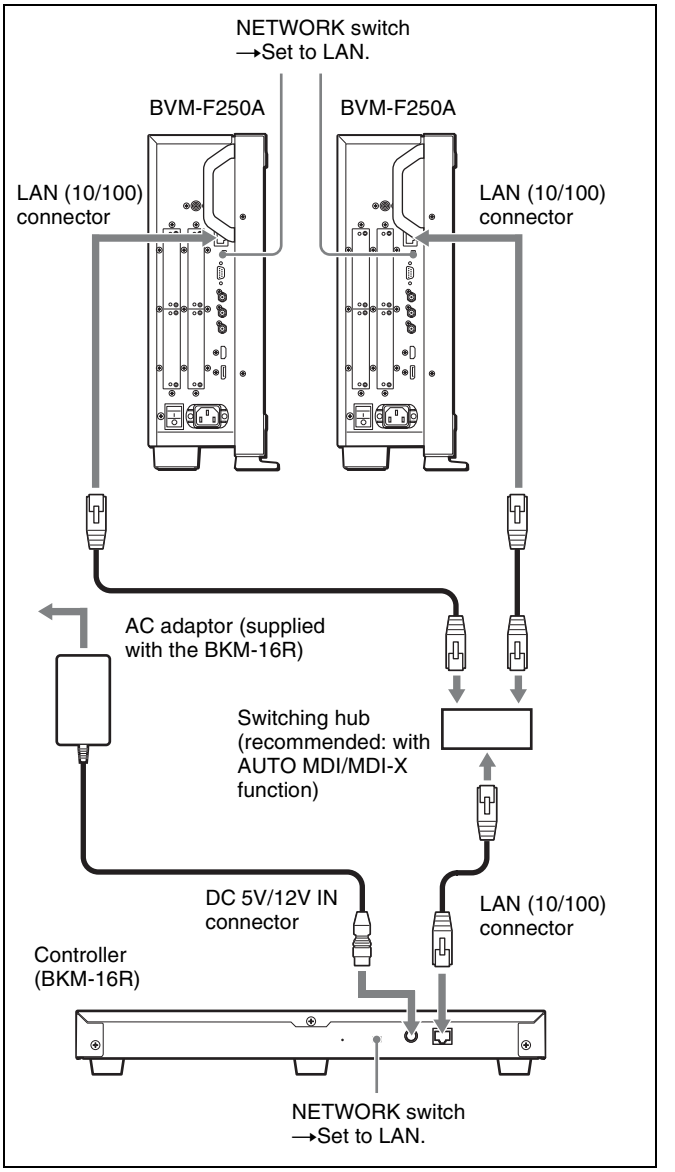
4 Connect the DC 5V OUT connector of the monitor and the DC 5V/12V IN connector of the controller by using the SMF-700 or the cable supplied with the BKM-37H/38H.
Or connect the output cable of the AC adaptor supplied with the controller to the DC 5V/12V IN connector of the controller.

Connecting the Multiple Units with the LAN

The controller controls up to 32 monitors. Up to four controllers are connected to one monitor in single mode.

Note

The controller cannot control monitors in another subnetwork.



1 Turn off the MAIN POWER switch of the monitor before connecting the units.

2 Connect to the network by using a 10BASE-T/100BASE-TX cable (shielded-type, optional).

Notes

- When an optional LAN cable is connected, use a shielded-type cable to prevent a malfunction due to noises.
- We recommend to use an optional switching hub with auto selection function (AUTO MDI/MDI-X) of a straight/cross cable.

3 Connect the output cable on the AC adaptor supplied with controller to the DC 5V/12V IN connector of the controller.

Note

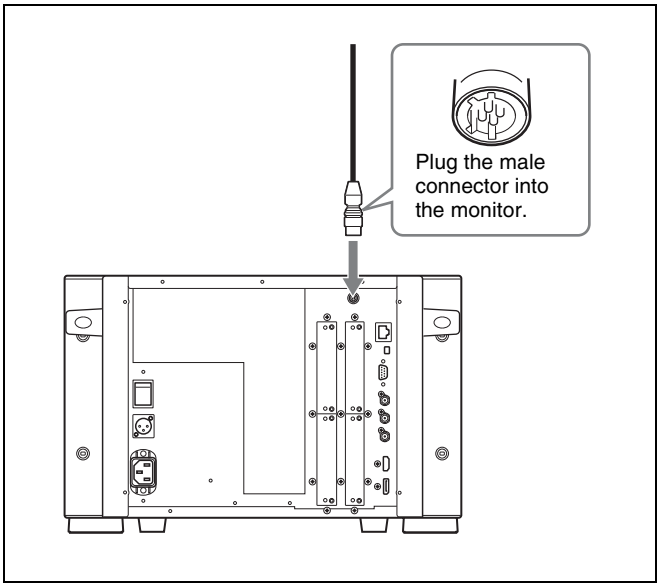
When the multiple units are connected, set for the LAN before setting the NETWORK switch to LAN (page 35).

4 Set the NETWORK switches of each monitor and the controller to LAN.

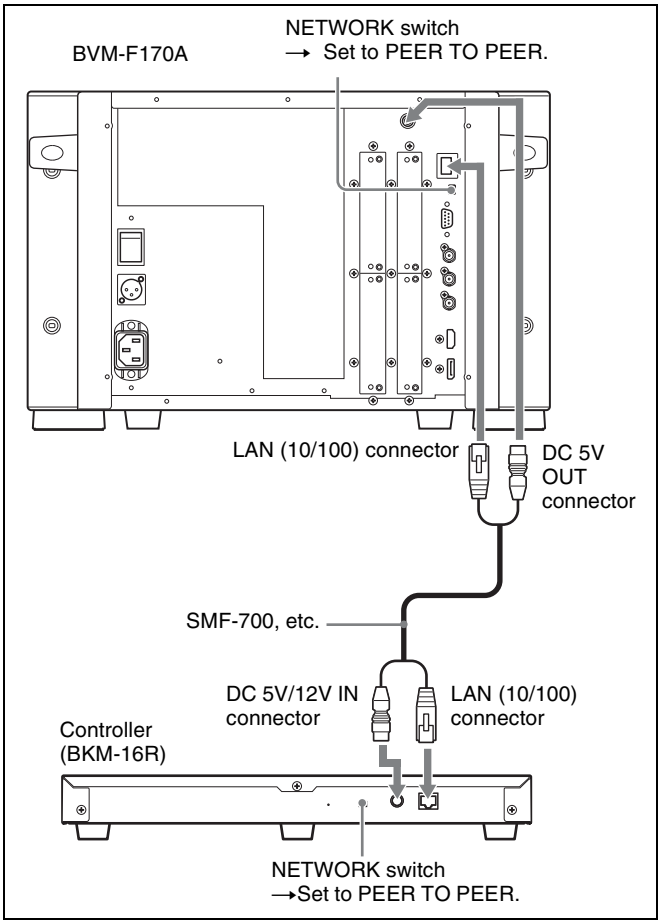
Connections (BVM-F170A)

Note on connecting the cable to the DC 5V OUT connector

Be sure to plug the male connector of the cable into the DC 5V OUT connector of the monitor.
Insert the connector so as to fit the shape of the DC 5V OUT connector.



Connecting the Controller (BKM-16R)



1 Turn off the MAIN POWER switch of the monitor before connecting the units.

2 Set the NETWORK switches of the monitor and the controller to PEER TO PEER.

3 Connect the LAN (10/100) connector of the monitor and the LAN (10/100) connector of the controller by using the SMF-700 or the cable supplied with the BKM-39H, or a 10BASE-T/100BASE-TX straight LAN cable (shielded-type, optional).

Note

When an optional LAN cable is connected, use a shielded-type cable to prevent a malfunction due to noises.

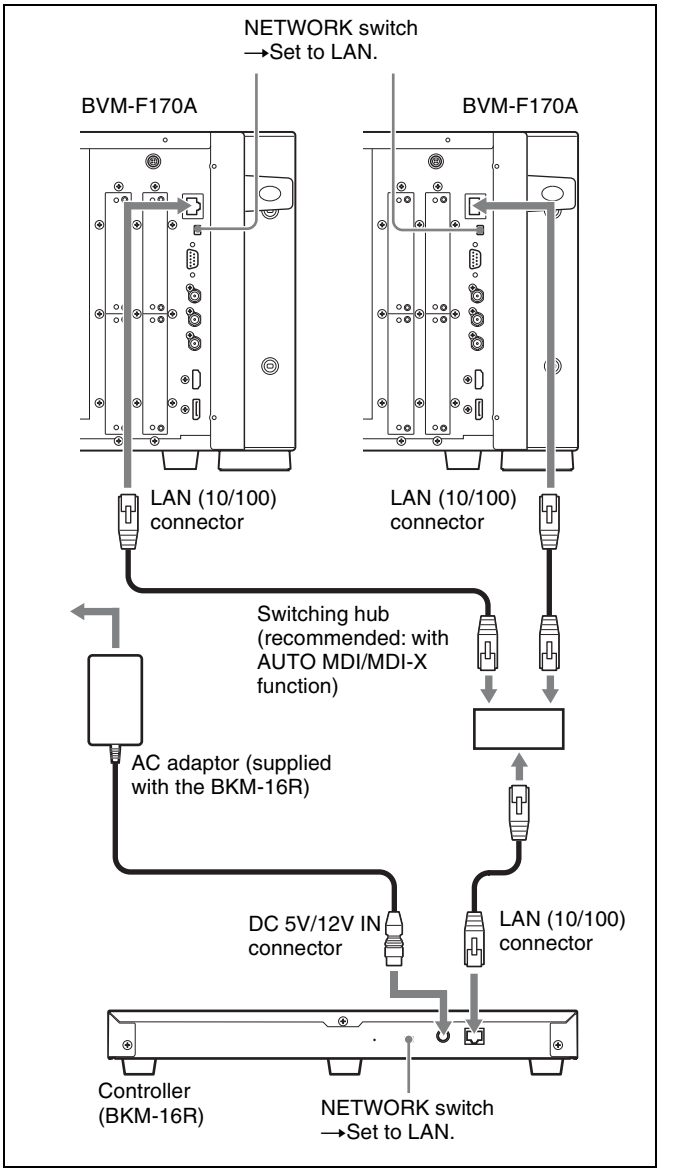
4 Connect the DC 5V OUT connector of the monitor and the DC 5V/12V IN connector of the controller by using the SMF-700 or the cable supplied with the BKM-39H. Or connect the output cable of the AC adaptor supplied with the controller to the DC 5V/12V IN connector of the controller.

Connecting the Multiple Units with the LAN

The controller controls up to 32 monitors. Up to four controllers are connected to one monitor in single mode.

Note

The controller cannot control monitors in another subnetwork.



1 Turn off the MAIN POWER switch of the monitor before connecting the units.

2 Connect to the network by using a 10BASE-T/100BASE-TX cable (shielded-type, optional).

Notes

- When an optional LAN cable is connected, use a shielded-type cable to prevent a malfunction due to noises.
- We recommend to use an optional switching hub with auto selection function (AUTO MDI/MDI-X) of a straight/cross cable.

3 Connect the output cable on the AC adaptor supplied with controller to the DC 5V/12V IN connector of the controller.

Note

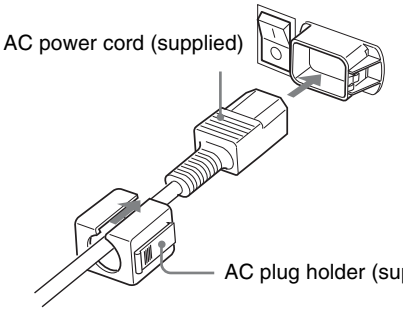
When the multiple units are connected, set for the LAN before setting the NETWORK switch to LAN (page 35).

4 Set the NETWORK switches of each monitor and the controller to LAN.

Turning on the Power (BVM-F250A)

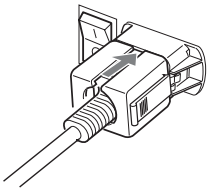
Connecting the AC Power Cord

1 Plug the AC power cord into the AC IN connector on the left side panel. Then, attach the AC plug holder (supplied) to the AC power cord.



Attach the AC plug holder to the AC power cord, and connect the cord to the AC IN connector so that the cord does not come loose.

2 Slide the AC plug holder over the cord until it locks.



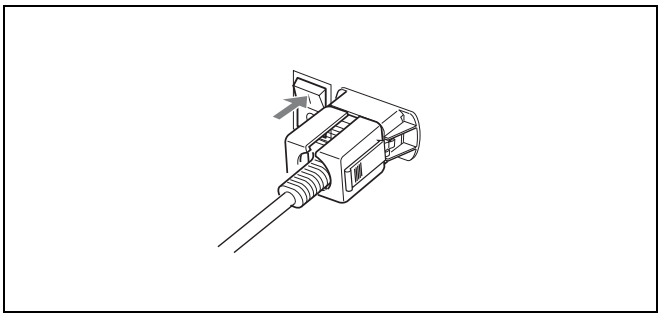
To disconnect the AC power cord

Pull out the AC plug holder while pressing the lock levers.

Turning on the Monitor

Press the MAIN POWER switch on the left side panel to turn on the power.
When you turn on the monitor for the first time after purchasing it, the Select Area screen is displayed. Select the area where you intend to use this monitor.

For selecting the area, see page 33.



The warm-up time is more than 30 minutes, approximately.

When the monitor is in standby mode

As the OPERATE lamp lights in red in standby mode, press the MONITOR I/⏻ switch of the controller.
The OPERATE lamp lights in green and the monitor enters operation mode.

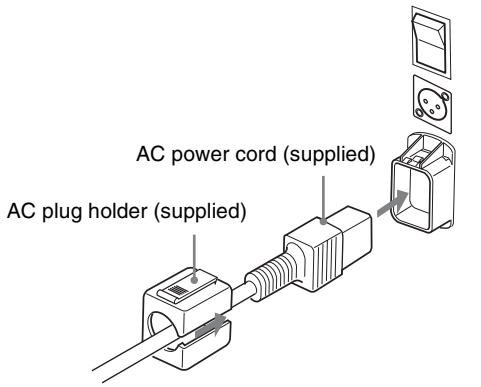
Turning on the Power (BVM-F170A)

Connecting to Power

You can operate the monitor with AC or DC power supply.

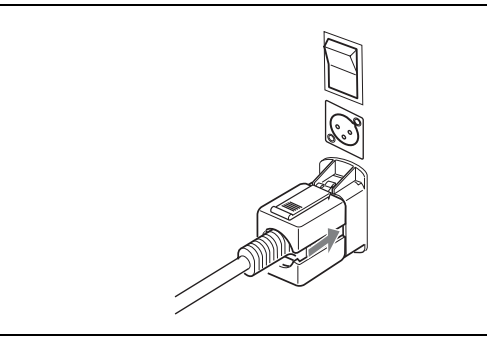
To connect the AC power cord

1 Plug the AC power cord into the AC IN connector on the rear panel. Then, attach the AC plug holder (supplied) to the AC power cord.



Attach the AC plug holder to the AC power cord, and connect the cord to the AC IN connector so that the cord does not come loose.

2 Slide the AC plug holder over the cord until it locks.



To disconnect the AC power cord

Pull out the AC plug holder while pressing the lock levers.

To connect the DC power supply

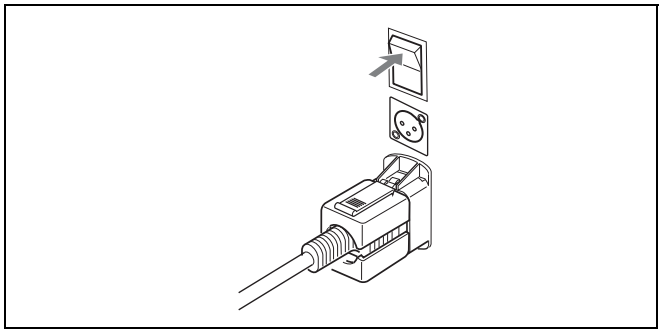
Connect the DC power supply to the DC IN 24 V - 28 V connector.
When the AC power cord and DC power supply are connected, the AC power supply is given preference to

over the DC power supply. To use the DC power supply, disconnect the AC power cord.

Turning on the Monitor

Press the MAIN POWER switch on the rear panel to turn on the power.
When you turn on the monitor for the first time after purchasing it, the Select Area screen is displayed. Select the area where you intend to use this monitor.

For selecting the area, see page 33.



The warm-up time is more than 30 minutes, approximately.

When the monitor is in standby mode

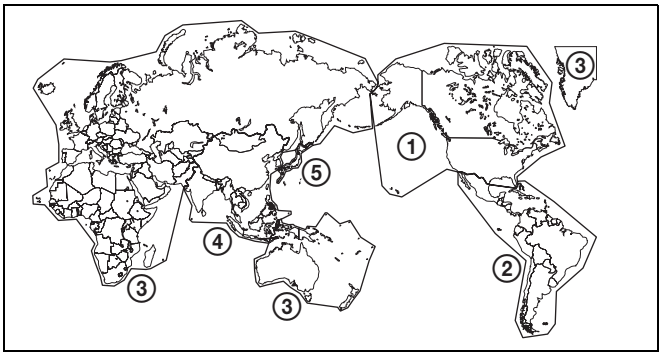
As the OPERATE lamp lights in red in standby mode, press the MONITOR I/⏻ switch of the controller.
The OPERATE lamp lights in green and the monitor enters operation mode.

Settings

Selecting the Area

When you turn on the monitor for the first time after purchasing it, select the area where you intend to use this monitor from among the options.
When the area is selected, the menu item settings suitable for the selected area are applied.

Default value for each area



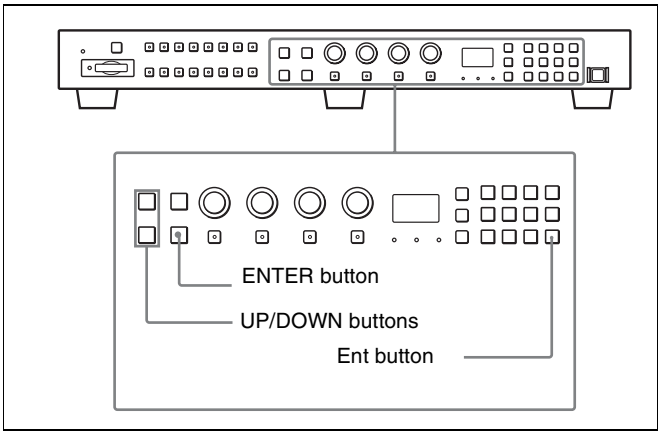
		Color Temp	Setup Level	Component Level	Color Profile
①North America		D65	7.5%	Betacam	ITU-R BT.709
②Latin America	Argentina	D65	0%	SMPTE/ EBU-N10	ITU-R BT.709
PAL&PAL-N Area	Paraguay	D65	0%	SMPTE/ EBU-N10	ITU-R BT.709
	Uruguay	D65	0%	SMPTE/ EBU-N10	ITU-R BT.709
NTSC&PAL-M Area	Other Area	D65	7.5%	Betacam	ITU-R BT.709
③Africa Australasia Europe Middle-East		D65	0%	SMPTE/ EBU-N10	ITU-R BT.709
④Asia Except Japan	NTSC Area	D65	7.5%	Betacam	ITU-R BT.709
	PAL Area	D65	0%	SMPTE/ EBU-N10	ITU-R BT.709
⑤Japan		D93	0%	SMPTE/ EBU-N10	ITU-R BT.709

Note on the setting of color temperature

If you measure the color temperatures of different display types, such as CRT, LCD, or OLED, by using a common (or general) color analyzer that is based on CIE 1931, and adjust the xy chromaticity to the same value, the appearance may be different because of optical spectrum differences.

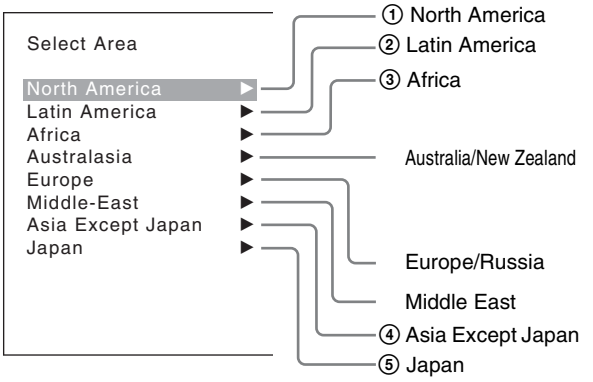
To compensate for this difference, the D93, D65 and User1 to User5 settings of the monitor are adjusted by an offset*.

* The offset value applied (x-0.006, y-0.011) is based on the Judd's function to the CIE 1931 (x, y) value.



1 Turn on the monitor with the MAIN POWER switch.

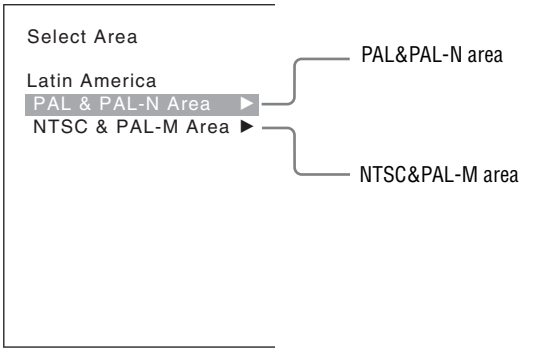
The Select Area screen appears.



2 Press the UP or DOWN button of the controller to select the area where you intend to use the monitor and press the ENTER (Ent) button.

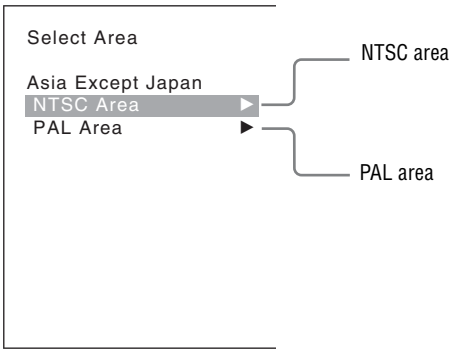
If you select either Latin America or Asia Except Japan, one of the following screens appears.

If ② Latin America is selected:

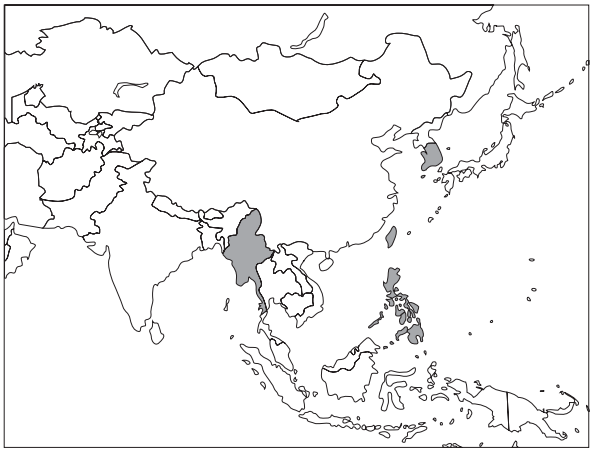


Select PAL & PAL-N or NTSC & PAL-M and press the ENTER (Ent) button.

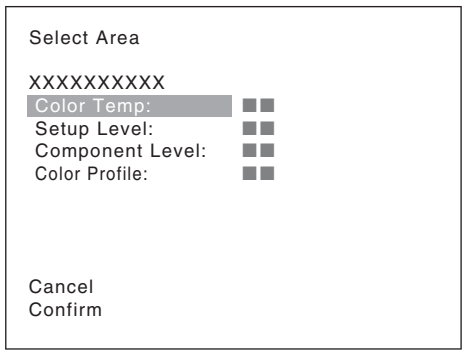
If ④ Asia Except Japan is selected:



Customers who will use this monitor in the shaded areas shown in the map below should select NTSC Area.
Other customers should select PAL Area.
Then press the ENTER (Ent) button.



3 Confirm the settings.



Cancel: Select to cancel the setting and return to the Select Area screen.
Confirm: Select to save the setting and end selecting the area.

See "Default value for each area" on page 33 on the setting value.

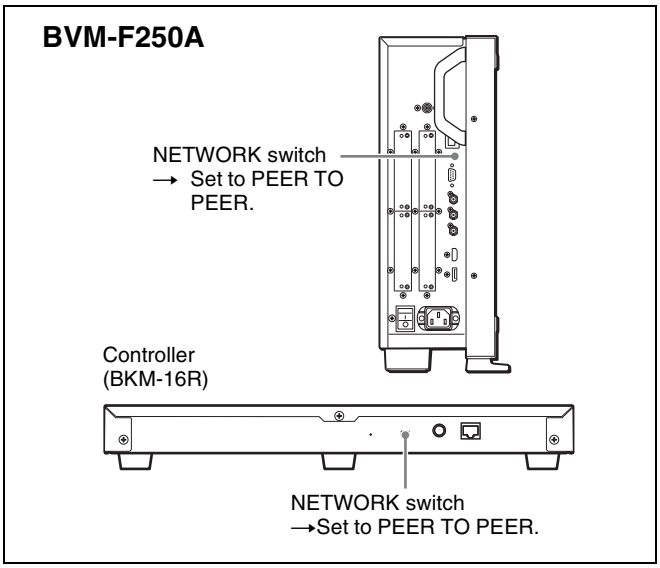
After saving and reflecting the setting, you can change the setting with the menu.
- Color Temp (color temperature) (page 58)
- Setup Level (NTSC Setup Level: page 60, Betacam Setup Level: page 60)
- Component Level (page 60)
- Color Profile (page 58)

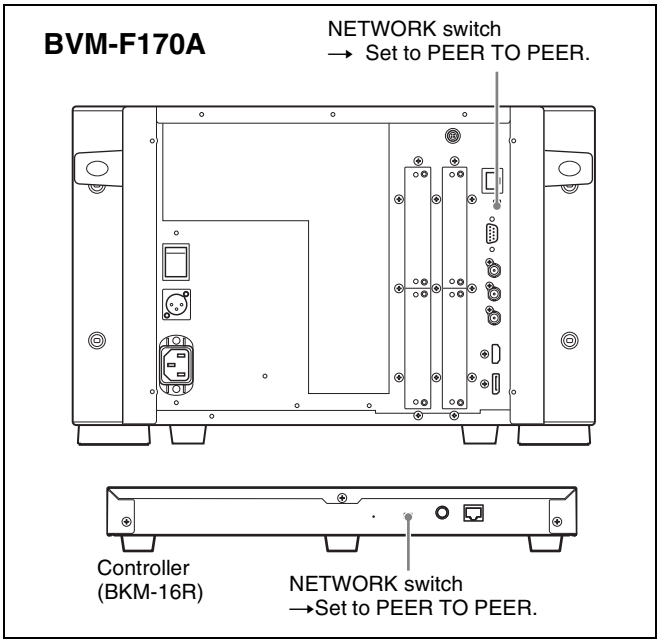
Setting for the LAN to Connect the Multiple Units

You can control the multiple monitors using the controller (BKM-16R, optional) connected via each LAN (10/100) connector. You can also control a specific monitor or monitor group.

Set an IP address to the monitors and the controller and a monitor ID number and group ID number to each monitor.

1 Set the NETWORK switches of each monitor and the controller to PEER TO PEER.





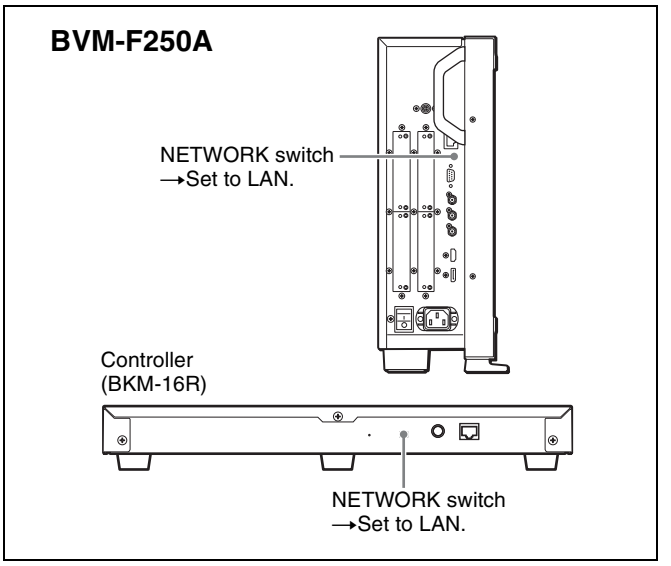
2 Set the different IP address to each monitor and the controller.

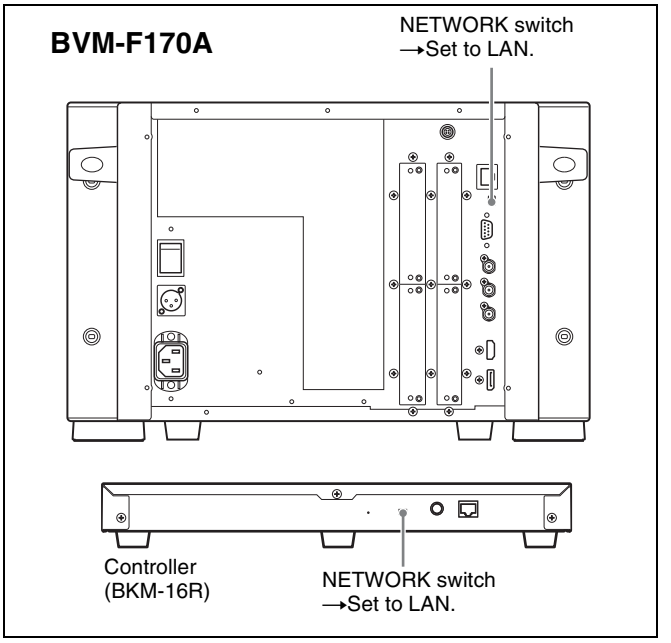
Monitor: Set the IP address in the Network Setting menu (page 72) of the System Configuration menu.
Controller: Set the IP address in the Network Setting menu (page 82) of the Controller menu.

3 Set Monitor ID and Group ID in the Network menu (page 72) of the System Configuration menu.

Set the different monitor ID number to each monitor and if necessary, group ID number.
You can use the numbers 1 to 99 as a monitor ID number or group ID number.

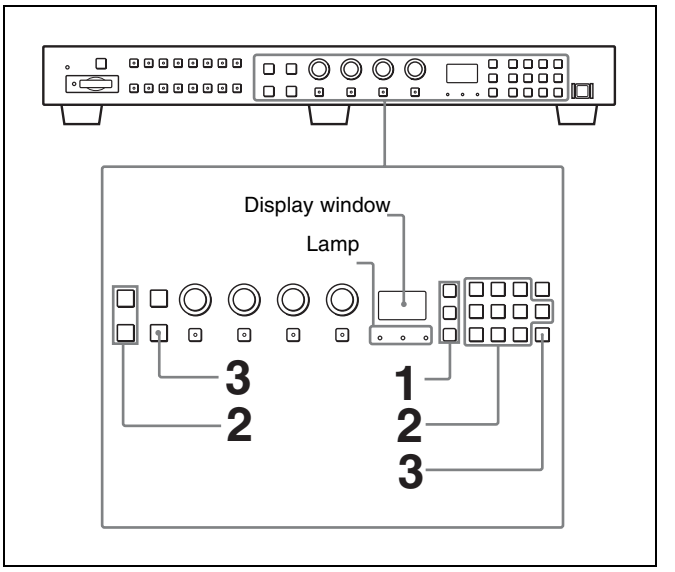
4 Set the NETWORK switches of the monitor and the controller to LAN.





Selecting the Monitor (Designation of the Monitor or Group ID Number)

When the multiple monitors are connected by the network connections, you can remotely connect the monitors from the controller by designating the set monitor ID number or group ID number.



1 Press the corresponding button to select the connection mode.

SINGLE button: Selects single connection mode.
The designated monitor is connected remotely.
The monitor ID number is displayed on all connected monitors when the button is held pressed.
GROUP button: Selects group connection mode.
The monitor of the designated group is connected remotely.
The group ID number is displayed on all connected monitors when the button is held pressed.
ALL button: Selects all connection mode.
All monitors are connected remotely.

The lamp corresponding the pressed button flashes and lights after recognizing the monitor.

2 Select the monitor ID number for the single connection mode or group ID number for the group connection mode by pressing the UP/DOWN or numeric button.

Up to 99 is entered as the monitor ID or group ID number.

3 Press the ENTER or Ent button to confirm the setting.

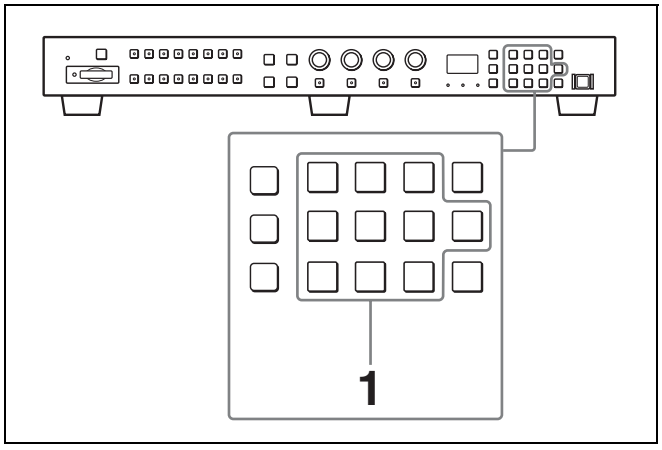
The monitor ID number, group ID number or ALL is displayed in the display window.

Notes

- When the monitor with no assigned monitor ID number or group ID number is selected, the setting is not changed and the previous connection status is maintained.
- When there are monitors with the same ID number, the monitor with the lower IP address is selected.
- Even if a different monitor ID number is set to the monitors, when the same IP address is set to another monitor, the monitor cannot be connected to the network.

Assigning the Input Signal to the Channel

When you assign the input signal to the channel, you can select the channel and change the input signal by pressing the numeric button. The input signal is assigned to one of channels 1 to 30.



1 Select the channel (CH1 to CH30) to be assigned by pressing the numeric button of the controller.

To assign to a channel number from 1 to 9, press the appropriate one-digit channel number on the numeric keypad.
To assign to a channel number from 10 to 30, press the 0 button, then press the appropriate two-digit channel number.

2 Set the input signal for the selected channel in Channel Configuration menu (page 55).

The required setting is different due to the input signal or picture quality to be displayed.

Setting the Display Mode of the Picture

Set the display mode condition of the input signal to display on the screen. The setting items are following.
- Setting Matrix (transmission matrix)
- Selecting the color profile (color space and gamma)

1 Set Matrix in the Matrix menu (page 58) of the Channel Configuration menu.

2 Select the color profile (color space and gamma) in the Color Profile menu (page 58) of the Channel Configuration menu.

Adjusting

Before adjusting
The monitor must be warmed up sufficiently.
To perform stable color reproduction, turn on the power of the monitor, display the white signal and leave it in this state for more than 30 minutes.

About monitor adjustment
The monitor is used as a measuring instrument and is required to faithfully reproduce the input signal. To measure the signal accurately, the monitor must be calibrated correctly using a reference signal.
To calibrate, adjust the following items in sequence.

1 Chroma/phase adjustment
You can save the adjustment value in Preset1 to Preset5. The data of Preset1 to Preset5 is set to the channel in the Picture Preset menu (page 58) of the Channel Configuration menu.
Adjust the picture automatically with the auto chroma/phase/matrix function for every signal format and signal system to display the composite signal or Y/C signal from the BKM-227W, or analog component signal or analog RGB signal from the BKM-229X. If the picture is not adjusted, the picture may not be displayed correctly.

2 Color Temperature (white balance) adjustment
You can adjust the data set to the channel in the Color Temp menu (page 58) of the Channel Configuration menu.
You can adjust D93, D65 or User1 to User5.

3 Brightness/Contrast adjustment
You can save the adjustment value in Preset1 to Preset5. The data of Preset1 to Preset5 is set to the channel in the Picture Preset menu (page 58) of the Channel Configuration menu.

Chroma/Phase Adjustment

Automatic adjustment (with auto chroma/phase/matrix function) is required for each signal format, signal system and matrix to display the composite or Y/C signal from the BKM-227W, or the analog component or analog RGB signal from the BKM-229X.
As you can automatically adjust the chroma, phase, matrix and also 100% (white) and 0% (black) levels of the monitor to the same as those of the reference signal by performing the automatic adjustment, the automatic adjustment is also effective for the RGB signal.
Perform the manual adjustment of chroma and phase to adjust them further after automatic adjustment or to adjust the digital signal from the standard input, BKM-220D, BKM-243HS, BKM-244CC or BKM-250TG.

Automatic adjustment (recommended)

1 Input the reference color-bar signal to the monitor.

2 Select Auto in the Picture Adj menu of the Adjustment menu and perform the automatic adjustment of the chroma, phase and matrix in Auto Adjust (page 50).

Manual adjustment

The following is the example of the method to perform the manual adjustment of the chroma and phase.

1 Input the multi format color-bar signal or SMPTE color-bar signal to the monitor.

2 Set the BLUE ONLY button to on.

Red and green signals are cut, and only the blue signal is displayed as a monochrome picture.

The following is the example of the adjustment when the multi format color-bar signal is used.

3 Select the Manual Adjust menu (page 51) in the Picture Adj menu of the Adjustment menu.

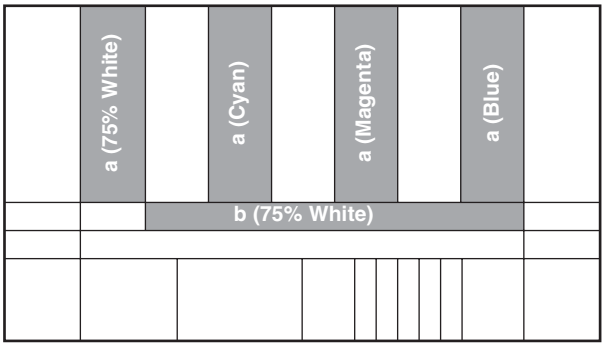
4 Adjust the levels with the CHROMA or PHASE knob of the controller while tracking so that the brightness of bars “a” (75% White, Cyan, Magenta and Blue parts) and “b” (75% White part) (in the following illustration) are the same.

For the composite and Y/C signals

Adjust the levels with the CHROMA and PHASE knob.

For the component signal

Adjust the levels with the CHROMA knob.



5 Press the ENTER or Ent button.

The adjusted data is confirmed.

6 Set the BLUE ONLY button to off.

Note

You can access manual adjustment without opening the Adjustment menu. To access it, press the MANUAL button located below the CHROMA or PHASE knob of the controller. If manual adjustment is accessed by this method, the adjusted value is common to all channels and valid only when the lamp of the MANUAL button is lit. To turn off the lamp of the MANUAL button, press the button again.

Color Temperature (White Balance) Adjustment

This monitor is equipped with manual and automatic color temperature adjustments.

BVM-F250A: The automatic color temperature adjustments can be performed using a specified color temperature probe.
BVM-F170A: The automatic color temperature adjustments can be performed using the built-in color sensor or a specified color temperature probe.

Special software is required for the automatic adjustment using the specified probe. For details, contact your Sony representative.

Automatic adjustment (using the built-in color sensor) (for BVM-F170A only)

1 Select the Auto Adjust menu (page 53) in the Color Temp Adj menu of the Adjustment menu.

Manual adjustment

1 Select the Manual menu (page 52) in the Color Temp Adj menu of the Adjustment menu then select the Manual Adjust menu.

2 Adjust the color in gain side with the PHASE, CHROMA, BRIGHT or CONTRAST knob.

3 Press the UP or DOWN button and adjust the color in bias side with the PHASE, CHROMA, BRIGHT or CONTRAST knob.

4 Press the UP or DOWN button.

5 Repeat steps **2** to **4** until the desired color is obtained, because the gain and bias adjustments may affect each other.

6 Press the ENTER or Ent button.

The adjusted data are confirmed.

Brightness/Contrast Adjustment

As an image on a color video monitor is seen differently according to the ambient light (environmental brightness), adjust the brightness (black level) according to the ambient light and the black level of the image to be reproduced and adjust the contrast (white level) according to the ambient light.
Adjust the brightness/contrast with an external reference signal of a multi format color-bar signal or SMPTE color-bar signal.

1 Input the multi format color-bar signal or SMPTE color-bar signal to the monitor.

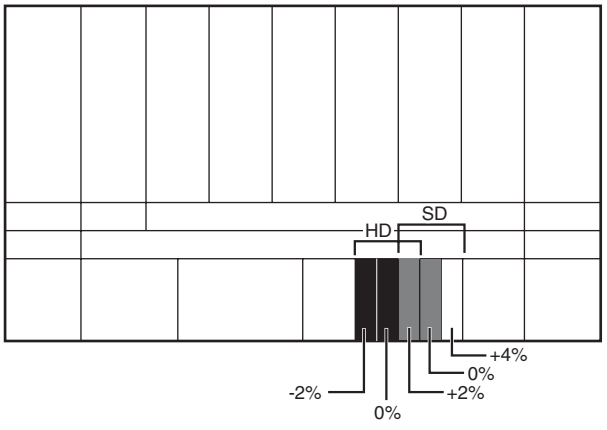
The following are explained as the example when the multi format color-bar signal is used for adjustment.

2 Select the Manual Adjust menu (page 51) in the Picture Adj menu of the Adjustment menu.

3 Adjust the –2%, 0% and +2% ranges or the 0%, +2% and +4% ranges of the PLUGE signal section of the color-bar with the BRIGHT knob.

HD signal
Adjust so that the –2% and 0% ranges are seen as equal and the +2% and 0% ranges are more distinctive.

SD signal
Adjust so that the 0% and +2% ranges are seen as equal and the +2% and +4% ranges are more distinctive.



4 Adjust so that the luminance of the 100% white signal of the color-bar is set to the desired value with the CONTRAST knob.

We recommend adjusting the luminance to 100 [cd/m^2] when Preset1 to Preset5 is selected in the Picture Preset menu of the Channel Configuration menu.

5 As the brightness and contrast adjustments affect each other, repeat the adjustments of step **3** and **4**.

6 Press the ENTER or Ent button.

Note

You can access manual adjustment without opening the Adjustment menu. To access it, press the MANUAL button located below the BRIGHT or CONTRAST knob of the controller. If manual adjustment is accessed by this method, the adjusted value is common to all channels and valid only when the lamp of the MANUAL button is lit. To turn off the lamp of the MANUAL button, press the button again.

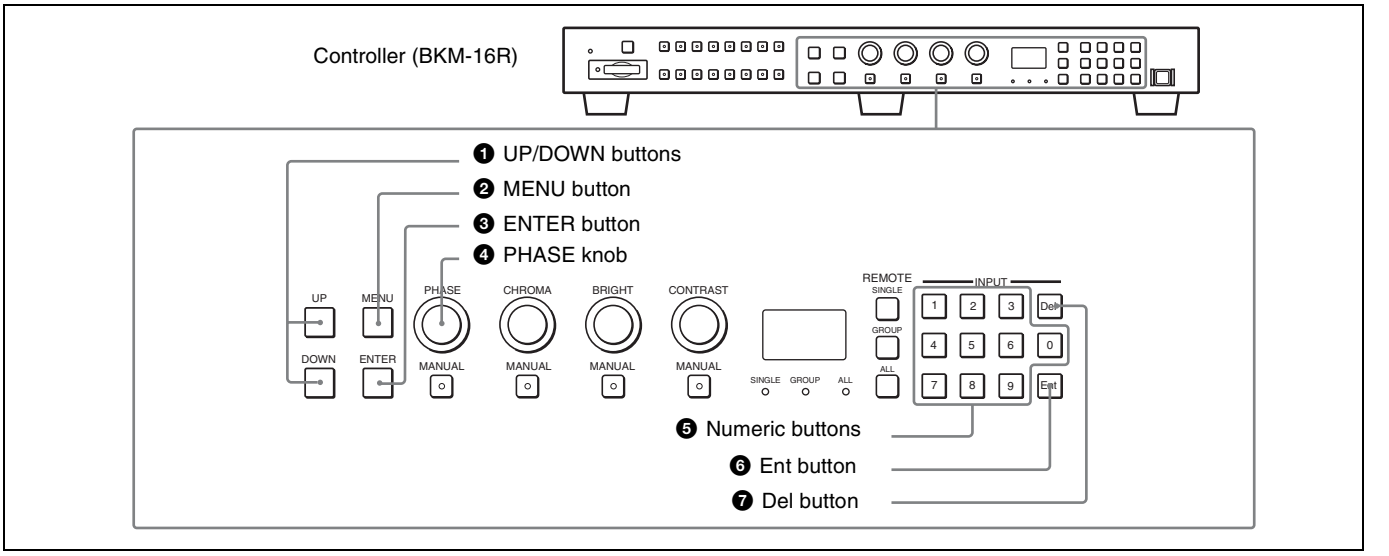
Menu

Chapter 3

Basic Menu Operations

Menu Operation Buttons

The menu is operated using the menu operation buttons on the controller (BKM-16R, optional).

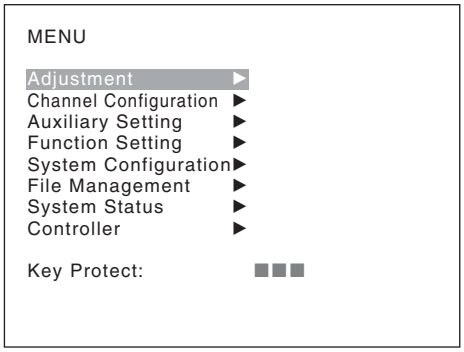


The functions of the menu operation buttons are described below.

Button	Function
❶ UP button	Moves the cursor upward. In setting mode, increases the setting or adjustment value.
❶ DOWN button	Moves the cursor downward. In setting mode, decreases the setting or adjustment value.
❷ MENU button	Displays the menu. Goes back to the menu of the upper level. (On the main menu, goes back to the normal picture.)
❸ ENTER button	Changes an item or displays the information on the functions assigned to function buttons. In setting mode, confirms the adjustment or setting value.
❹ PHASE knob	By turning this knob clockwise, the cursor moves downward. In setting mode, increases the setting or adjustment value (has the same function as UP button). By turning this knob counterclockwise, the cursor moves upward. In setting mode, decreases the setting or adjustment value (has the same function as DOWN button).
❺ Numeric buttons	Enters the numerical values.
❻ Ent button	Changes an item or displays the information on the input signal, etc. In setting mode, confirms the adjustment or setting value.
❼ Del button	Deletes the values and characters entered.

Displaying the Menu

Press the MENU button.
The main menu is displayed on the screen.



When you select one item on the main menu, the level 1 menu of the selected item appears.

For the items on the menu, see "Menu Structure" on page 44.

Notes

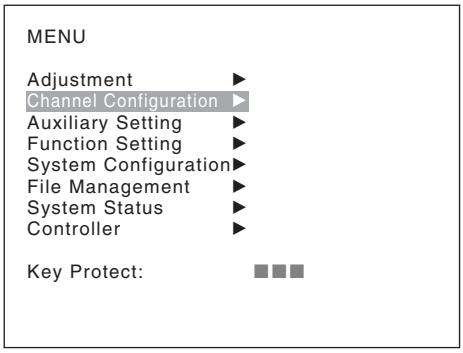
- The menu disappears automatically if not operated for about one minute.
- Menu items displayed in gray cannot be selected.
- This menu is not displayed when Pixel Zoom is set to on.

Setting or Adjusting in the Menu Operation

1 Press the MENU button.

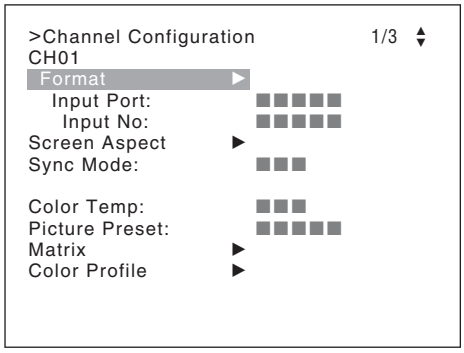
The main menu is displayed.

2 Using the UP or DOWN button or PHASE knob, select the desired item. (Example: select the Channel Configuration menu by pressing the DOWN button.)



3 Press the ENTER or Ent button.

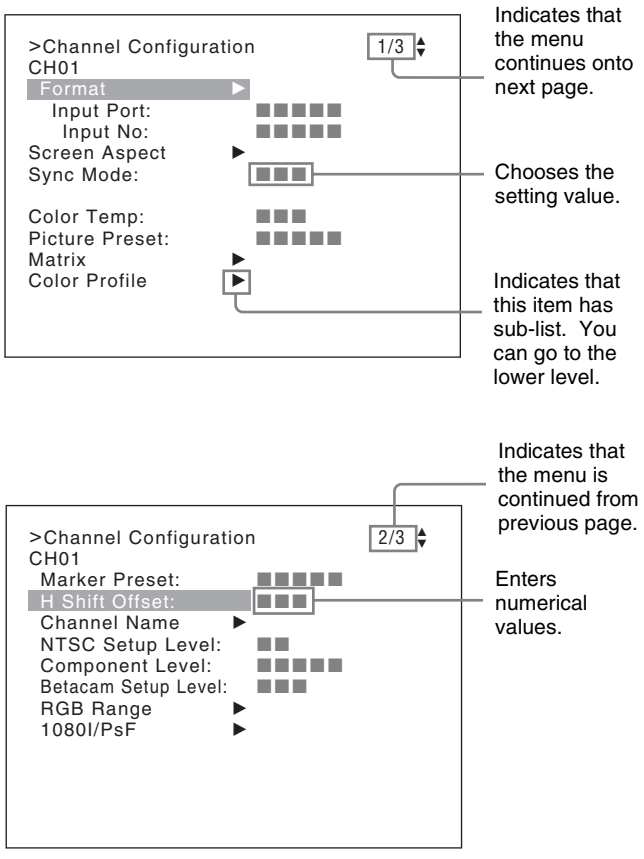
The level 1 of the selected menu is displayed.
The current settings are displayed in place of the ■ marks on the illustrations of the menu screen.



4 Repeat steps **2** and **3** until the desired menu is displayed.

For more information about setting and adjustments, see below.

Display example



Choosing the setting value

The method for selecting the value is different due to the menu item.

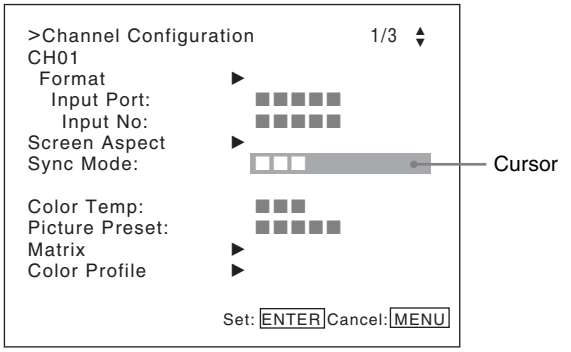
- Selecting in setting mode
- Selecting from the setting list

When selecting in setting mode

1 Using the UP or DOWN button or PHASE knob, select the desired item and press the ENTER or Ent button.

The cursor moves to the setting value and the monitor enters in setting mode.

Display example



2 Using the UP or DOWN button or PHASE knob, select the setting value.

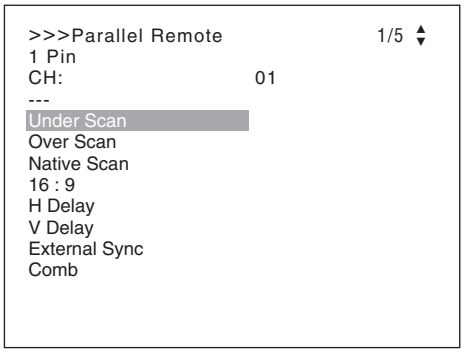
3 Press the ENTER or Ent button.

The setting is confirmed and the cursor returns to the item.

When selecting from the setting list

1 Using the UP or DOWN button or PHASE knob, select the desired item in the setting list.

Display example



2 Press the ENTER or Ent button.

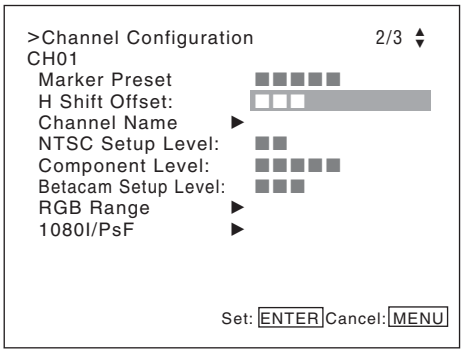
The setting is confirmed and the display returns to the menu of the upper level.

Entering numerical values

1 Using the UP or DOWN button or PHASE knob, select the desired item and press the ENTER or Ent button.

The cursor moves to the setting value and the monitor enters in setting mode.

Display example



2 Select the value in one of the following three ways:

- Enter the value directly using the numeric buttons and press the ENTER or Ent button. (only the item whose the value of setting range is over 0)
- Select the value using the UP or DOWN button.
- Select the value using the PHASE knob.

3 Press the ENTER or Ent button.

The setting is confirmed and the cursor returns to the item.

Entering characters

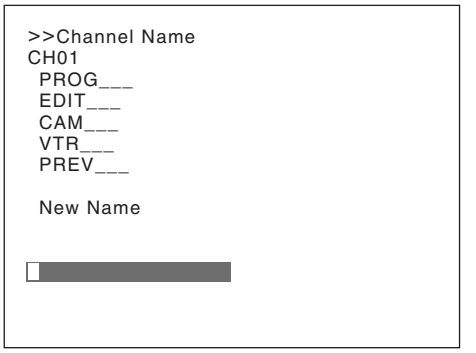
1 Using the UP or DOWN button or PHASE knob, select New Name or the existing name.

The "---" means that one or more characters can be entered in sequence after the existing name.

2 Press the ENTER or Ent button.

3 Using the UP or DOWN button or PHASE knob, select the characters that you wish to enter.

Display example



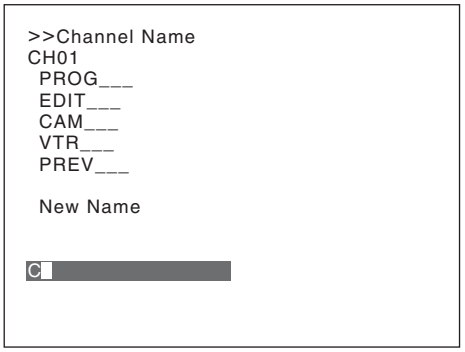
When you press the UP button or turn the PHASE knob clockwise, the characters and symbols appear in the sequence shown below.
Capital letters (A → B → ..... → Y → Z) → Lower-case letters (a → b → ..... → y → z) → Numbers (0 → 1 → ..... → 8 → 9) → Marks → Capital letters...

When you press the DOWN button or turn the PHASE knob counterclockwise, the characters and symbols appear in the reverse sequence described above.
The usable symbols are limited depending on the menu.
"(space)" is not used as a first character of a sentence.

4 Press the ENTER or Ent button.

The selected character is entered.

Display example



5 Repeat steps **3** and **4** until all the characters are entered, then press the ENTER or Ent button.

The selected characters are confirmed and the display returns to the menu of the upper level.

To correct the entered character

Press the Del button. The character on the left side of the cursor is deleted.

Entering the Channel Number

When selecting a one-digit number, press the button of the channel number.
When selecting a two-digit number, first press the 0 button, then press a two-digit channel number.

Channel numbers 91 to 97 assignment

The signal systems to which the internal signal is displayed are assigned to channel numbers 91 to 97. The internal signal of the last signal system is displayed.

091: PLUGE signal
092: 20% gray signal
093: 100% white signal
094: Five-step gray scale signal
095: Ramp signal
096: color-bar signal
097: 0% black signal

To cancel the internal signal, select one from the channel numbers 1 to 30.

Note

You cannot select channel numbers 91 to 97 in the following cases:
- When the computer signal of HDMI/DisplayPort is input
- When Side by Side is set to On
- When Pixel Zoom is set to on

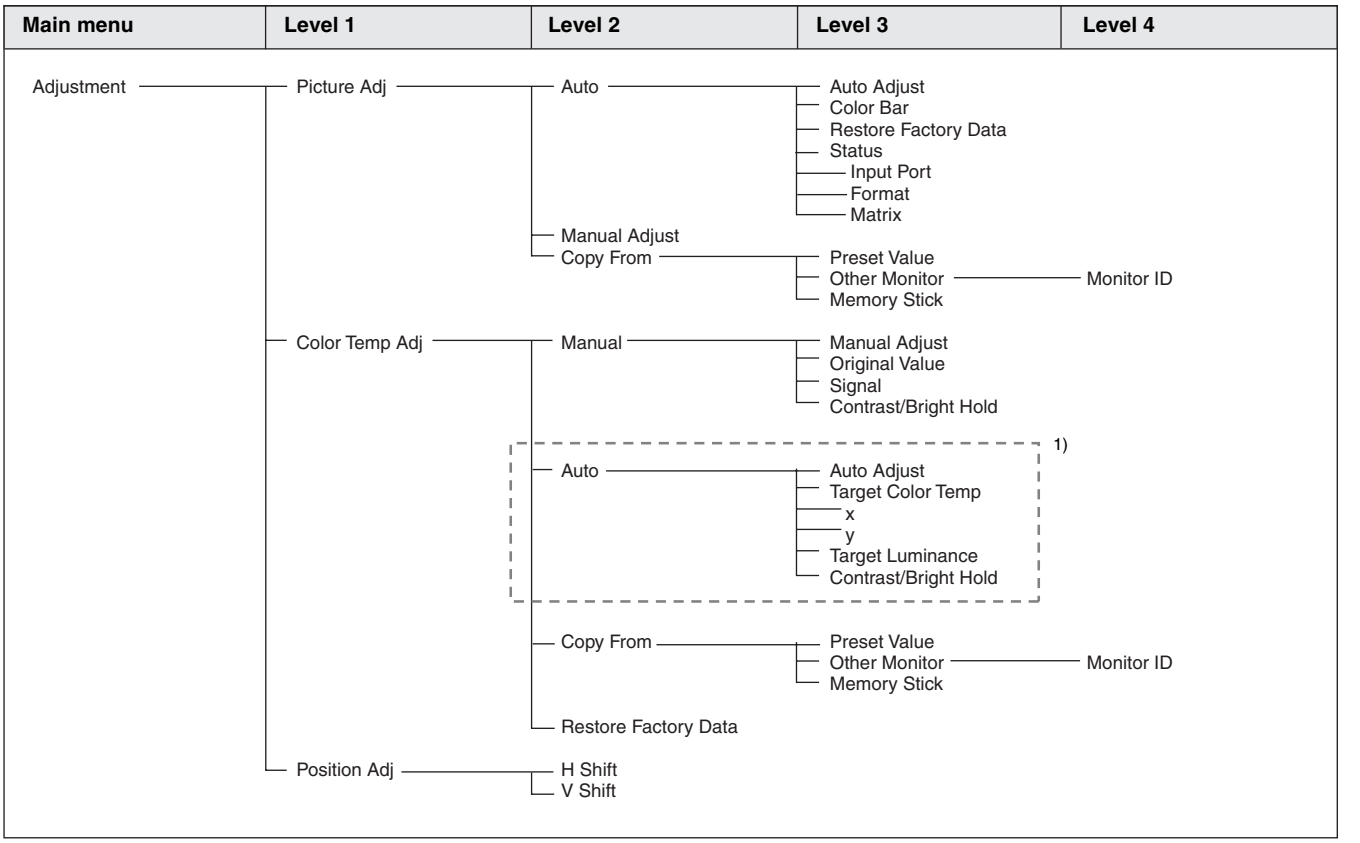
Aborting Menu Operation

Press the MENU button. The menu of the upper level is displayed.
When the MENU button is pressed in setting mode or during adjustment, the menu returns to the previous setting.
The menu disappears automatically if not operated for about one minute.

Menu Structure

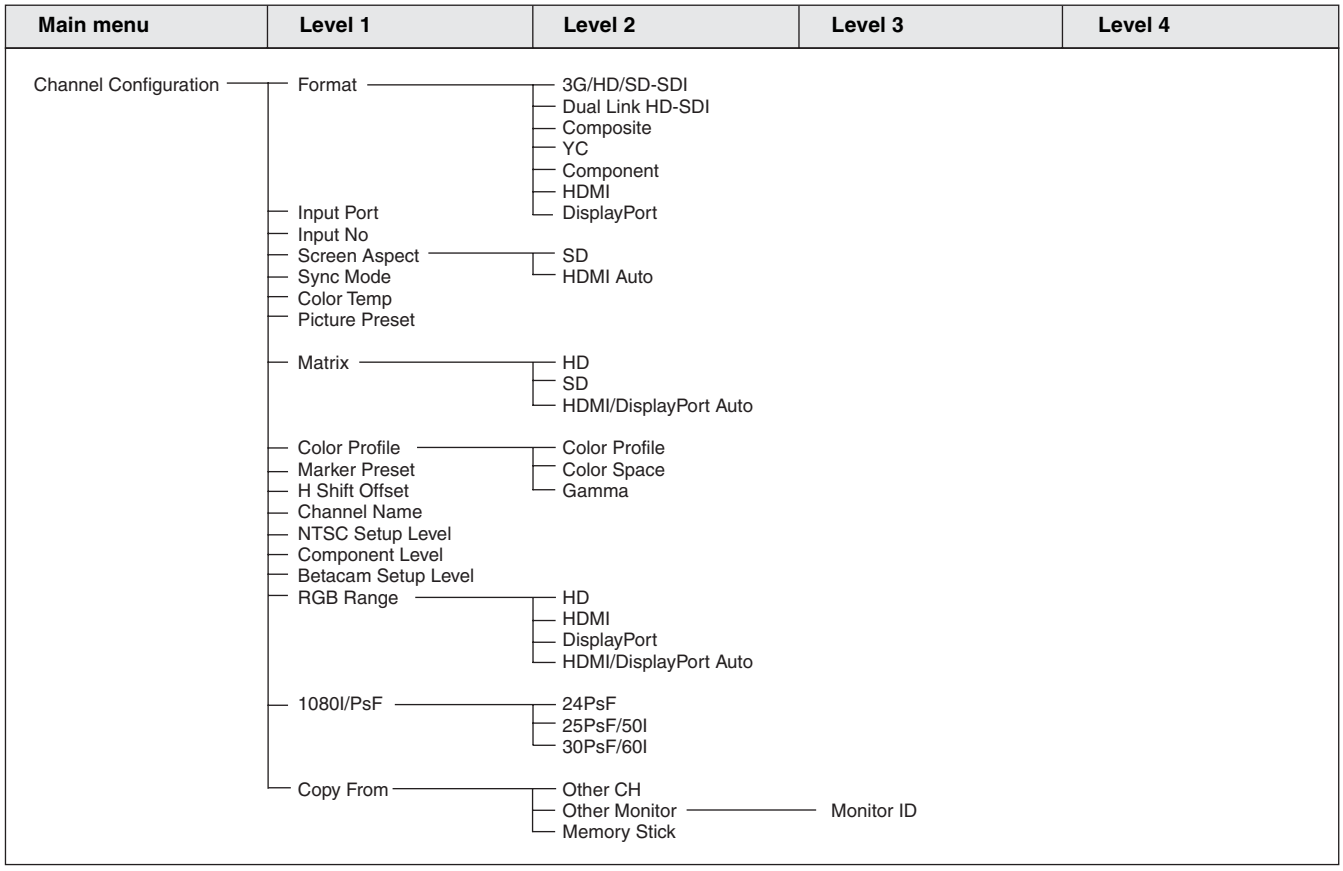
For details of each menu, see the page in parentheses.

Adjustment menu (page 50)

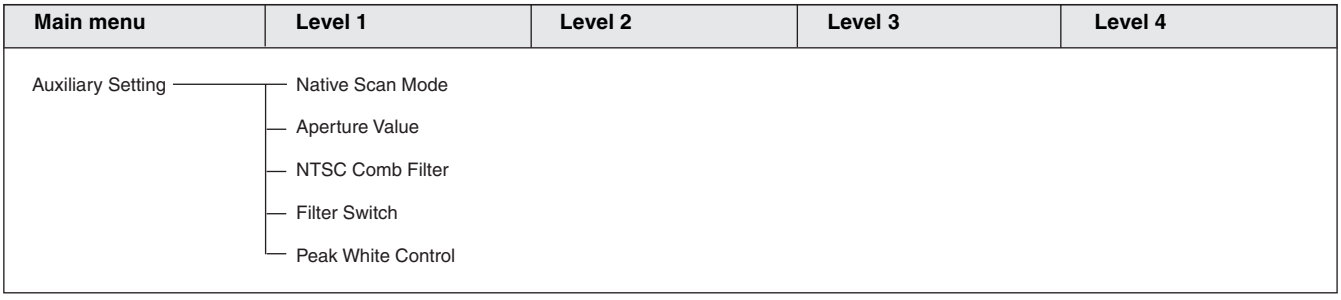


1) For BVM-F170A only

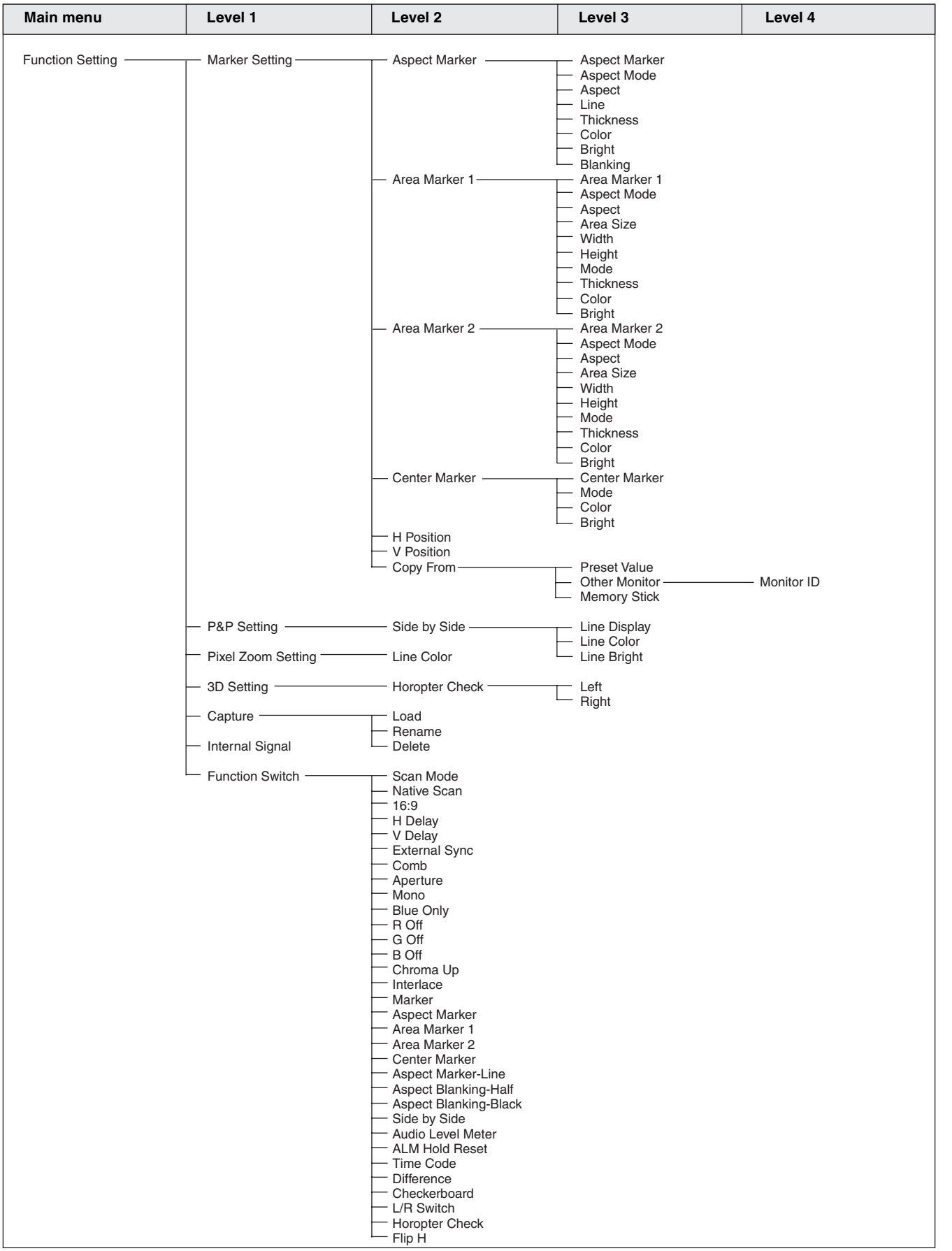
Channel Configuration menu (page 55)



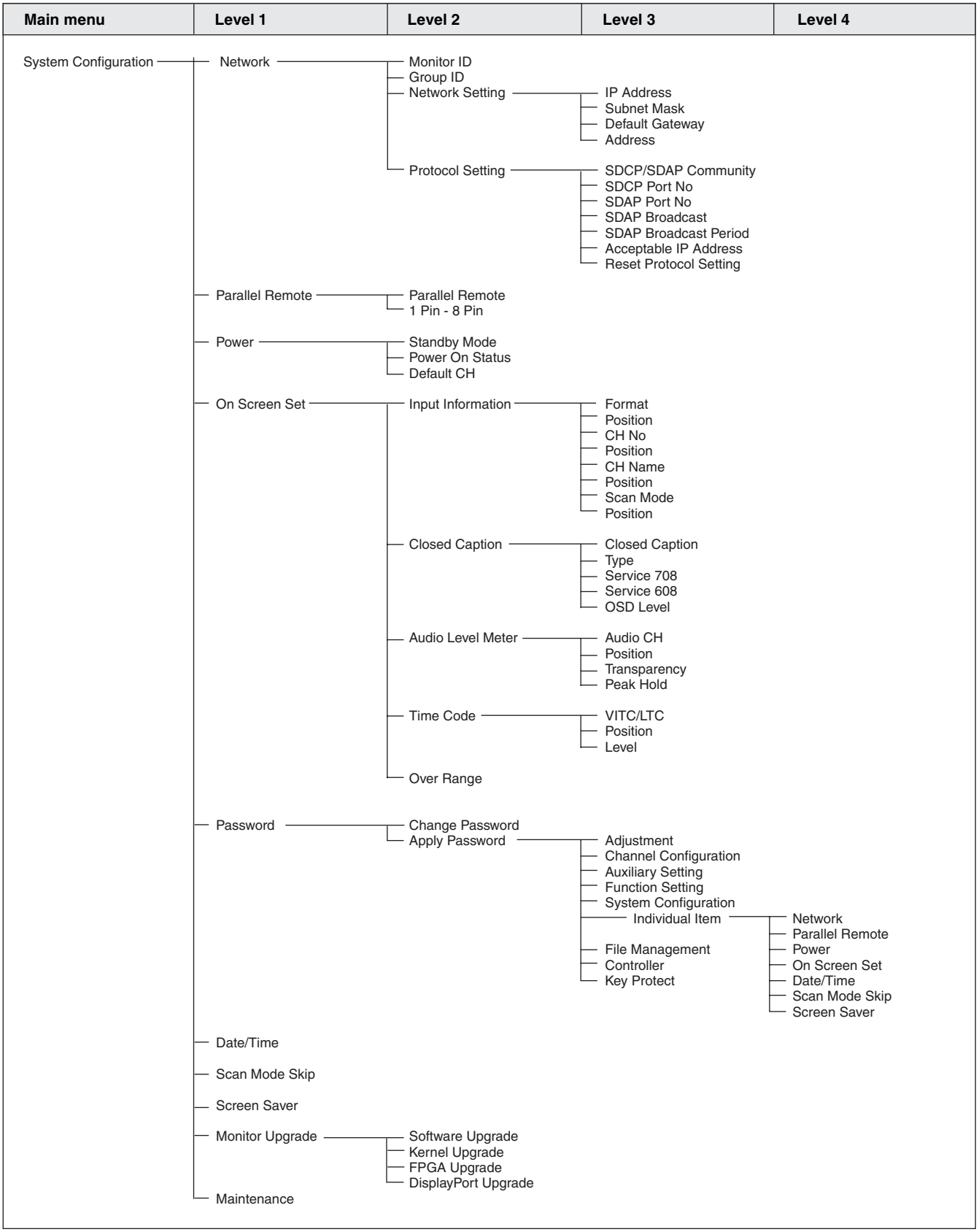
Auxiliary Setting menu (page 62)



Function Setting menu (page 63)



System Configuration menu (page 72)



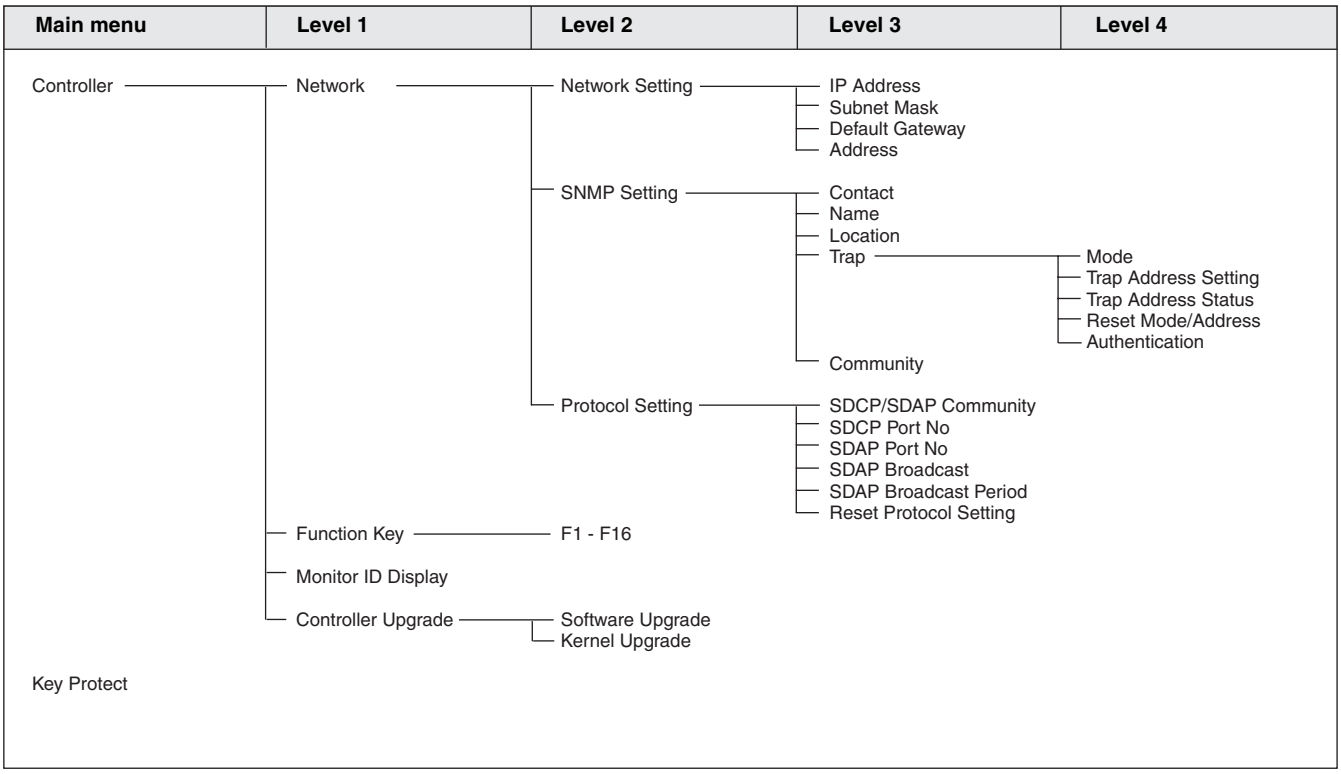
File Management menu (page 78)

Main menu	Level 1	Level 2	Level 3	Level 4
File Management	Save To	Memory Stick		
	Copy From	Other Monitor	Monitor ID	
		Memory Stick		
	Delete	Memory Stick		
	Data Maintenance	Back Up System Data		
		Restore System Data		

System Status menu (page 80)

Main menu	Level 1	Level 2	Level 3	Level 4
System Status	CH Status			
	Port Status Option1-Option4	Model Name		
		Serial No		
	SDI Payload ID Status	Payload ID		
		Video Standard		
		Sampling Structure		
		Bit Depth		
		Picture Rate		
		Scanning Method		
		Link Number		
		Current Status		
		Format		
		I/PsF/P		
	HDMI/DP Status	Pixel Encoding		
		Color Depth		
		Matrix		
		RGB Range		
	Model Name			
	Serial No			
	Software Version			
	Operation Time			
	Panel On Time			
	Network Switch			
	Controller Status	Model Name		
		Serial No		
		Software Version		
		Network Switch		

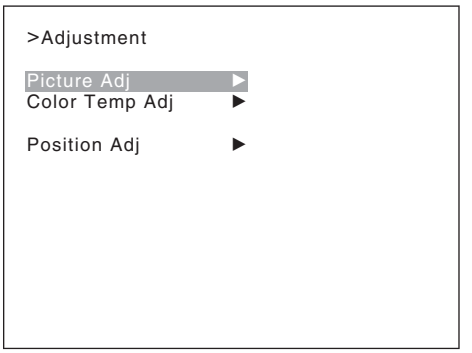
Controller menu (page 82) / Key Protect menu (page 87)



Adjustment Menu

Overview

Adjusts the picture, color temperature, etc.
When Adjustment is selected, the following menu is displayed.



Note

This menu is not selectable in the following cases:
- When Side by Side is set to On

Menu Function and Operation

Menu	Function and operation ([ ]: factory setting)
Picture Adj	Adjusts the chroma, phase, matrix and signal level automatically and contrast, brightness, chroma and phase to set the preset value to picture adjustment preset data. When the item is selected, the picture adjustment preset data to be set is displayed. To change the picture adjustment preset data to be adjusted, you can select from Preset1, Preset2, Preset3, Preset4 and Preset5 in the Picture Preset menu of the Channel Configuration menu (page 55).
Auto	Sets the automatic adjustment of chroma, phase, matrix and signal level. When the item is selected, the selected preset data is displayed. You can select this item when the composite or Y/C signal from the BKM-227W, or the analog component or analog RGB signal from the BKM-229X is displayed. **Note** This menu is not selectable when the internal signal or captured frame is displayed.
Auto Adjust	Starts automatic adjustment. (It may take some time until the automatic adjustment is completed.) An external color-bar signal for the reference is necessary for automatic adjustment (page 51). The chroma data is reset to the default setting **[1000]**. The phase data is reset to the default setting **[000]**. **Note** When the analog component signal or analog RGB signal is input, adjust the picture position in the Position Adj menu (page 54) to perform the automatic adjustment in the Auto Adjust menu. When the picture position does not fit, the adjustment will not be performed correctly and this may cause a malfunction. **To cancel adjustment** Press the MENU button.

Menu				Function and operation ([ ]: factory setting)
Picture Adj		Color Bar		Sets the color-bar signal to input. **[Full Field 8]:** 100% full-field 8-color bars (white, yellow, cyan, green, magenta, red, blue and black) **SMPTE:** SMPTE standard color bars **EIA:** EIA standard color bars (effective for 480/60i and 575/50i signals only) **Multi Format:** Color bars standardized by SMPTE RP219/ARIB STD-B28
		Restore Factory Data		Resets the automatic adjustment data of chroma, phase, matrix and signal level to the default setting. You cannot select this when the setting is the default value. The following message appears. **Restore factory data?** **OK:** To reset the data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button.
		Status		Displays the status of the automatic adjustment data of the chroma, phase, matrix and signal level to be adjusted. **Not Adjusted:** Displays when the data is not adjusted. **Adjusted:** Displays when the data is adjusted.
			Input Port	Displays the input option port number of the automatic adjustment data to be adjusted.
			Format	Displays the signal format and signal system of the automatic adjustment data to be adjusted.
			Matrix	Displays the matrix of the automatic adjustment data to be adjusted.
	Manual Adjust			Adjusts values by turning the PHASE, CHROMA, BRIGHT, and/or CONTRAST knobs. After adjustment, press the ENTER (Ent) button to confirm the adjusted values. **Phase: –150** to **+150 [000]** **Chroma: 0000** to **2000 [1000]** **Bright: –500** to **+500 [000]** **Contrast: 0000** to **2500 [1000]** **To display no characters on the screen while adjusting manually** Set the CHAR OFF button to on. The characters disappear. To display characters, set the CHAR OFF button to off. **To reset the setting to the default** Press the corresponding MANUAL button. The adjusted value is reset to the default. **To cancel adjustment** Press the MENU button. The adjustment data is cleared. **To confirm adjustment** Press the ENTER (Ent) button. **Note** During adjustment, the screen saver is activated automatically if the operating conditions are met, regardless of the setting of the screen saver function.
	Copy From			Copies picture adjustment preset data. **Notes** • Automatic adjustment data is not copied. • Use the controller with software version 1.6 or higher to use the Copy From function.
		Preset Value		Copies other data in this monitor. When the item is selected, you can select from **Preset1**, **Preset2**, **Preset3**, **Preset4** or **Preset5**.
		Other Monitor		Copies data from another monitor.
			Monitor ID	Enter the ID number of the source monitor. When the NETWORK switch is set to PEER TO PEER, this is not selectable. When the ID number is entered, you can select from **Preset1**, **Preset2**, **Preset3**, **Preset4** or **Preset5**.
		Memory Stick		Copies data in the “Memory Stick”. When the item is selected, the file names in the source “Memory Stick” are displayed. When the file is selected, you can select from **Preset1**, **Preset2**, **Preset3**, **Preset4** or **Preset5**.

Menu	Function and operation ([ ]: factory setting)
Color Temp Adj	Adjusts the color temperature. When the item is selected, the color temperature data to be adjusted is displayed. When D93 or D65 data is changed, they are displayed as D93* or D65*. To change the color temperature data to be adjusted, select D93, D65, User1, User2, User3, User4 or User5 in the Color Temp menu of the Channel Configuration menu. **Note** If you measure the color temperatures of different display types, such as CRT, LCD, or OLED, by using a common (or general) color analyzer that is based on CIE 1931, and adjust the xy chromaticity to the same value, the appearance may be different because of optical spectrum differences. To compensate for this difference, the D93, D65 and User1 to User5 settings of the monitor are adjusted by an offset*. * The offset value applied (x-0.006, y-0.011) is based on the Judd's function to the CIE 1931 (x, y) value.
Manual	Adjusts the color temperature manually. When the item is selected, the color temperature data to be set is displayed. When D93 or D65 data is changed, they are displayed as D93* or D65*. When Contrast/Bright Hold is set to Off, the color temperature data are displayed. The contrast data is displayed as the picture preset data Preset1 to Preset5 set in the Picture Preset menu of the Channel Configuration menu. To change the type of the picture preset data, select from Preset1 to Preset5 in the Picture Preset menu (page 58) of the Channel Configuration menu.
Manual Adjust	Adjusts the color temperature using the BRIGHT, CHROMA, PHASE and/or CONTRAST knobs. When the item is selected, the color temperature adjustment display appears, and the Red, Green and/or Blue color temperature data to be adjusted are displayed to allow gain or bias adjustment. Select gain or bias adjustment, using the UP/DOWN buttons. The adjustable items and relevant knobs are as follows: To adjust Red (red): BRIGHT knob To adjust Green (green): CHROMA knob To adjust Blue (blue): PHASE knob To adjust brightness (Red, Green and Blue together): CONTRAST knob **To hide the characters on the monitor during manual adjustment** Set the CHAR OFF button of the controller to on. As the characters on the display are hidden, it becomes easy to adjust the picture. To display the characters, set the CHAR OFF button to off. **To reset Red, Green and Blue to the value before adjustment** During Red, Green and Blue adjustment, you can press the corresponding MANUAL button to reset to the value before adjustment. Pressing the MANUAL button of CONTRAST resets all Red, Green and Blue to the values before adjustment. **Note** You cannot reset the setting after you press the ENTER (Ent) button, even if you press the MANUAL button. **To cancel adjustment** Press the MENU button. The adjustment data is cleared and the setting returns to the previous value. **To confirm adjustment** Press the ENTER (Ent) button. **Note** During adjustment, the screen saver is activated automatically if the operating conditions are met, regardless of the setting of the screen saver function.
Original Value	Sets the initial value. You can select from **D93**, **D65**, **User1**, **User2**, **User3**, **User4** or **User5**. When D93 or D65 data is changed, they are displayed as D93* or D65*.

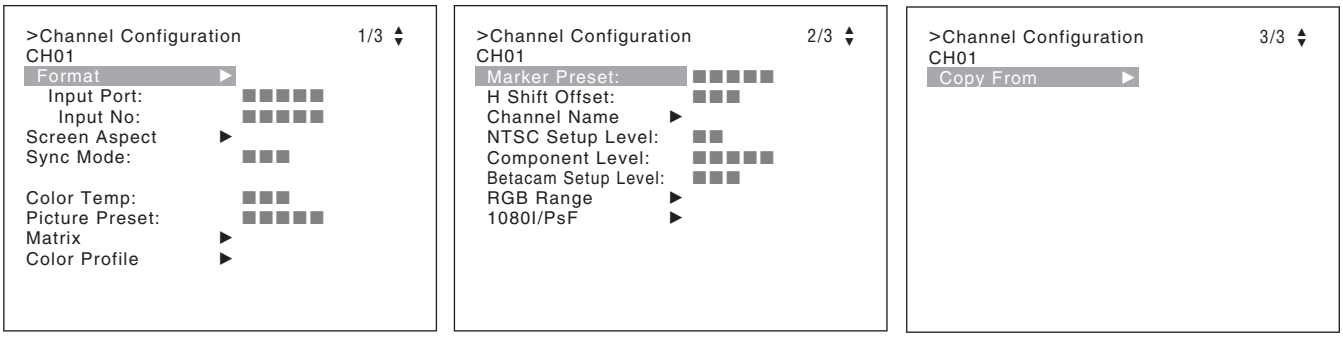
Menu			Function and operation ([ ]: factory setting)
Color Temp Adj		Signal	Sets the white signal to be used for adjustment. **[Internal]:** Select when an internal signal is used. The signal is automatically switched in synchronization with the gain and bias adjustments. **External:** Select when an external input signal is used. Supply a signal to be used when adjusting gain and bias.
		Contrast/Bright Hold	Sets the contrast and brightness to the adjusted value or the center value. **Off:** Sets contrast and brightness to the center values during and after color temperature adjustment. **[On]:** Retains the adjusted contrast and brightness values during and after color temperature adjustment.
	Auto (for BVM-F170A only)		Adjusts the color temperature automatically using the built-in color sensor. When this item is selected, the color temperature data to be adjusted is displayed. When D93 or D65 data is changed, they are displayed as D93* or D65*. When Contrast/Bright Hold is set to Off, the color temperature data are displayed. The contrast data is displayed as the picture preset data Preset1 to Preset5 set in the Picture Preset menu of the Channel Configuration menu. To change the type of the picture preset data, select from Preset1 to Preset5 in the Picture Preset menu (page 58) of the Channel Configuration menu.
		Auto Adjust	Starts adjustment. When Auto Adjust is selected, not only the target color temperature but also other color temperature data are adjusted. Before automatic adjustment, select the value to use for the adjustment in following sequence. When you use the previously adjusted values for adjustment, select **Auto Adjust** in step ③ to start adjustment without performing step ① and step ②. ① Select the color temperature to be used in Target Color Temp. When Any is selected, enter the values of the CIE color system x and y coordinates. ② Select Target Luminance and enter the value of the luminance (cd/m^2) when the 100% white signal is input. ③ Select Auto Adjust. The cursor appears and flashes at the bottom left of the screen. (It may take some time until the automatic adjustment is completed.) **To cancel/stop the adjustment** Press the MENU button.
		Target Color Temp	Sets the adjustment value to be used from **D93**, **D65** or **Any**.
		x	Enters the CIE color system x coordinate. Set to **0.265** to **0.350**.
		y	Enters the CIE color system y coordinate. Set to **0.270** to **0.360**.
		Target Luminance	Enters the luminance (cd/m^2) when the 100% white signal is input with the contrast and brightness set to the center. You can enter the value between **40** and **150**. **[100]** **Note** The calibrated luminance does not guarantee an absolute value and may be different from the luminance detected by the probe.
		Contrast/Bright Hold	Sets the contrast and brightness to the adjusted value or the center value. The contrast value is fixed to 1000, and the brightness value is fixed to 000 during the automatic adjustment. **Off:** The contrast and brightness values are retained at the center value even after color temperature adjustment. **[On]:** The contrast and brightness values are returned to the previous values before color temperature adjustment.
	Copy From		Copies the other color temperature. **Note** Use the controller with software version 1.6 or higher to use the Copy From function.

Menu				Function and operation ([ ]: factory setting)
Color Temp Adj		Preset Value		Copies other data in this monitor. When the item is selected, you can select from **D93**, **D65**, **User1**, **User2**, **User3**, **User4** or **User5**. **D93:** Copies the color temperature of D93. **D65:** Copies the color temperature of D65. **User1 to 5:** Copies the color temperature of User1 to 5. When D93 or D65 data is changed, they are displayed as D93* or D65*.
		Other Monitor		Copies data from another monitor.
			Monitor ID	Enter the ID number of the source monitor. When the NETWORK switch is set to PEER TO PEER, this is not selectable. When the ID number is entered, you can select from **D93**, **D65**, **User1**, **User2**, **User3**, **User4** or **User5**. **D93:** Copies the color temperature of D93. **D65:** Copies the color temperature of D65. **User1 to 5:** Copies the color temperature of User1 to 5. When D93 or D65 data is changed, they are displayed as D93* or D65*.
		Memory Stick		Copies data in the “Memory Stick”. When the item is selected, the file names in the source “Memory Stick” are displayed. When the file is selected, you can select from **D93**, **D65**, **User1**, **User2**, **User3**, **User4** or **User5**. **D93:** Copies the color temperature of D93. **D65:** Copies the color temperature of D65. **User1 to 5:** Copies the color temperature of User1 to 5. When D93 or D65 data is changed, they are displayed as D93* or D65*.
		Restore Factory Data		Resets the color temperature to the default setting. You cannot select this when the setting is the default value. The following message appears to confirm the data reset operation. **Restore factory data?** **OK:** To reset the data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button.
Position Adj				Adjusts the position of the picture when the analog signal is input. When the item is selected, the signal system to be set is displayed. You can select the item when the composite or Y/C signal from the BKM-227W, or the analog component or analog component RGB signal from the BKM-229X is displayed. **To hide the characters on the monitor during adjustment** Set the CHAR OFF button of the controller to on. As the characters on the display are hidden, it becomes easy to adjust the picture. To display the characters, set the CHAR OFF button to off. **Note** This menu is not selectable when the internal signal or captured frame is displayed.
	H Shift			Adjusts the horizontal position of the picture. As the setting increases, the picture moves to the right, and as the setting decreases, the picture moves to the left. **[000]** Set in the H Shift Offset menu (page 60) of the Channel Configuration menu when the difference of the horizontal position is necessary to adjust for different input signals of the same signal system, etc.
	V Shift			Adjusts the vertical position of the picture. As the setting increases, the picture moves up, and as the setting decreases, the picture moves down. **[000]**

Channel Configuration Menu

Overview

This menu is used for pertaining data to the input signals.
When Channel Configuration is selected, the following menus are displayed.



The current channel is displayed. Perform the input setting for the selected channel.

Before setting

Set the input signal for each channel. A channel number (1 to 30) is entered with the numeric buttons (page 43).

Note

This menu is not selectable in the following cases:
- When Side by Side is set to On

Menu Function and Operation

Menu	Function and operation ([ ]: factory setting)
Format	Sets the input signal type. **Note** The default setting is 3G/HD/SD-SDI Auto.
3G/HD/SD-SDI	Sets the serial digital signal format (Single-link 3G-SDI, HD-SDI or SD-SDI). **3G/HD/SD-SDI Auto:** Changes the format automatically according to the Sampling Structure, Bit Depth, Picture and transport scanning method information for Payload ID of SMPTE-352M standard superimposed on the input signals. **Note** You can confirm the Payload ID information and the signal format status of the current monitor in “SDI Payload ID Status” (page 81) of the System Status menu or using the Status button on the controller. *For details on the display using the Status button, see “Displaying the Monitor Status Page” (page 99).* **3G-SDI:** Sets the signal format. **4:2:2 YCbCr 10bit** **4:4:4 YCbCr 10bit** **4:4:4 RGB 10bit** **4:4:4 YCbCr 12bit** **4:4:4 RGB 12bit** **HD/SD-SDI Auto:** Changes the format automatically according to the format of the input signal. **SD-SDI**

Menu		Function and operation ([ ]: factory setting)
Format	Dual Link HD-SDI	Sets the Dual-link HD-SDI signal format when two BKM-243HS or BKM-244CC are installed in the OPTION 1 and 2 or OPTION 3 and 4 option ports or BKM-250TG is installed. **4:2:2 YCbCr 10bit** **4:4:4 YCbCr 10bit** **4:4:4 RGB 10bit** **4:4:4 YCbCr 12bit** **4:4:4 RGB 12bit**
	Composite	Sets the composite signal format when BKM-227W is installed. **Auto:** Changes automatically according to the format of the input signal. It will take a few seconds to detect the format of an input signal. It is recommended that a particular format be selected if it is determined. **NTSC** **PAL** **PAL-M** **SECAM**
	YC	Sets the Y/C signal format when BKM-227W is installed. **Auto:** Changes automatically according to the format of the input signal. It will take a few seconds to detect the format of an input signal. It is recommended that a particular format be selected if it is determined. **NTSC** **PAL** **PAL-M** **SECAM**
	Component	Sets the analog component signal format or analog RGB signal format when BKM-229X is installed. You can select from **YPbPr** or **RGB**.
	HDMI	Sets the HDMI signal format. In this manual, the 800 × 600, 1024 × 768, 1280 × 960, 1280 × 1024 and 1400 × 1050 signals are referred to as the HDMI computer signals. *For the signal format to be displayed, see page 118.*
	DisplayPort	Sets the DisplayPort signal format. In this manual, the 800 × 600, 1024 × 768, 1280 × 960, 1280 × 1024 and 1400 × 1050 signals are referred to as the DisplayPort computer signals. *For the signal format to be displayed, see page 118.*

Menu	Function and operation ([ ]: factory setting)
Input Port	Enters the input port number. You can select from **[Standard]**, **Option1** to **Option4**, **Option1&2** or **Option3&4**. **Standard** When using the standard SDI input of the monitor • When Format is set to 3G/HD/SD-SDI Auto or 4:2:2 YCbCr 10bit, 4:4:4 YCbCr 10bit, 4:4:4 RGB 10bit, 4:4:4 YCbCr 12bit or 4:4:4 RGB 12bit of 3G-SDI • When Format is set to HD/SD-SDI Auto • When Format is set to SD-SDI **Option1** to **Option4** When the signal is input from the input adaptor installed to the option port • When the BKM-250TG is installed and Format is set to 3G/HD/SD-SDI Auto or 4:2:2 YCbCr 10bit, 4:4:4 YCbCr 10bit, 4:4:4 RGB 10bit, 4:4:4 YCbCr 12bit or 4:4:4 RGB 12bit of 3G-SDI • When the BKM-243HS, BKM-244CC or BKM-250TG is installed and Format is set to HD/SD-SDI Auto • When the BKM-220D, BKM-243HS, BKM-244CC or BKM-250TG is installed and Format is set to SD-SDI • When the BKM-227W is installed and Format is set to Composite Auto, Composite NTSC, Composite PAL, Composite PAL-M, Composite SECAM, YC Auto, YC NTSC, YC PAL, YC PAL-M or YC SECAM • When the BKM-229X is installed and Format is set to Component YPbPr or Component RGB **Option1&2**, **Option3&4** • When two BKM-243HS or BKM-244CC are installed in the OPTION 1 and 2 or OPTION 3 and 4 option ports and Format is set to 4:2:2 YCbCr 10bit, 4:4:4 YCbCr 10bit, 4:4:4 RGB 10bit, 4:4:4 YCbCr 12bit or 4:4:4 RGB 12bit of Dual Link HD-SDI **Note** When the setting of Format and the installed adaptor do not match, the setting value may not be changed. Set the Format correctly according to the installed adaptor.
Input No	Enters the input connector number if there are two inputs with the same type of input connectors. You can select from **[Input 1]** or **Input 2** in the following cases: • When the standard SDI input is selected (when Input Port is set to Standard) • When the BKM-250TG is installed and Format is set to 3G/HD/SD-SDI Auto or 4:2:2 YCbCr 10bit, 4:4:4 YCbCr 10bit, 4:4:4 RGB 10bit, 4:4:4 YCbCr 12bit or 4:4:4 RGB 12bit of 3G-SDI • When the BKM-243HS, BKM-244CC or BKM-250TG is installed and Format is set to HD/SD-SDI Auto • When the BKM-220D, BKM-243HS, BKM-244CC or BKM-250TG is installed and Format is set to SD-SDI • When two BKM-243HS or BKM-244CC are installed in the OPTION 1 and 2 or OPTION 3 and 4 option slots and Format is set to 4:2:2 YCbCr 10bit, 4:4:4 YCbCr 10bit, 4:4:4 RGB 10bit, 4:4:4 YCbCr 12bit or 4:4:4 RGB 12bit of Dual Link HD-SDI **Note** When the setting of Format or Input Port and the installed adaptor do not match, the setting value may not be changed. Set Format or Input Port correctly according to the installed adaptor.
Screen Aspect	Selects the aspect ratio.
SD	Sets the aspect ratio of the SD signal. You can select from **[16:9]** or **4:3**.
HDMI Auto	Sets the manual or automatic setting for the aspect ratio of the HDMI signal. **Off:** Select to set the aspect ratio manually with the controller, etc. **[On]:** Select to set the aspect ratio automatically according to the input signal. The aspect ratio is not set with the controller, etc.
Sync Mode	Sets the sync signal when the analog component signal or analog RGB signal is input. You can select when Format is set to Component YPbPr or Component RGB. **[Internal]:** Select when an internal sync signal is used. **External:** Select when an external sync signal is used.

<table>
<tr><th>Menu</th><th>Function and operation ([ ]: factory setting)</th></tr>
<tr><td>Color Temp</td><td>Sets the color temperature.
You can select from D93, D65, User1 to User5.
When D93 or D65 data is changed, they are displayed as D93* or D65*.

Note on color temperature adjustment
If you measure the color temperatures of different display types, such as CRT, LCD, or OLED, by using a common (or general) color analyzer that is based on CIE 1931, and adjust the xy chromaticity to the same value, the appearance may be different because of optical spectrum differences.
To compensate for this difference, the D93, D65 and User1 to User5 settings of the monitor are adjusted by an offset*.

* The offset value applied (x-0.006, y-0.011) is based on the Judd's function to the CIE 1931 (x, y) value.</td></tr>
<tr><td>Picture Preset</td><td>Sets the picture adjustment preset.
Select from Preset1 to Preset5.</td></tr>
<tr><td>Matrix</td><td>Sets Matrix data (transmission matrix) depending on the input signal format.
Three transmission matrix data are preset.

Matrix data
ITU-R BT.709: Select when the signal of the ITU-R BT.709 standards format is input.
ITU-R BT.601: Select when the signal of the ITU-R BT.601 standards format is input.
SMPTE 240M: Select when the signal of the SMPTE 240M standards format is input.
The Matrix data can be selected for the HD or SD input signal, respectively.

For the type of the input signal, see "Available Signal Formats" (page 113).</td></tr>
<tr><td>HD</td><td>Sets Matrix of the HD signal.
You can select from [ITU-R BT.709], ITU-R BT.601 or SMPTE 240M.</td></tr>
<tr><td>SD</td><td>Sets Matrix of the SD signal.
You can select from ITU-R BT.709, [ITU-R BT.601], SMPTE 240M.</td></tr>
<tr><td>HDMI/DisplayPort Auto</td><td>Sets the manual or automatic setting for the transmission matrix of the HDMI or DisplayPort signal.
Off: Select to use Matrix set in the HD or SD menu.
[On]: Select to set Matrix automatically according to the input signal.</td></tr>
<tr><td>Color Profile</td><td>As the monitor is equipped with a wider color space OLED panel, the signal can be displayed with the color space and gamma selected in the Color Profile menu.</td></tr>
<tr><td>Color Profile (BVM-F250A)</td><td>Sets the color profile (color space and gamma) to be used.
There are four Color Profile data items in which the color space and gamma have been preset and user channel data item in which Color Space (color space) and Gamma (gamma) can be selected for each individual channel.

Preset data: BVM SMPTE-C, BVM EBU, ITU-R BT.709, F250 Native
Selectable data: User CHXX (the currently selected channel number is displayed)

<table>
<tr><th>Color Profile</th><th>Color Space</th><th>Gamma</th></tr>
<tr><td>BVM SMPTE-C</td><td>SMPTE-C</td><td>CRT BVM</td></tr>
<tr><td>BVM EBU</td><td>EBU</td><td>CRT BVM</td></tr>
<tr><td>ITU-R BT.709</td><td>ITU-R BT.709</td><td>2.4</td></tr>
<tr><td>F250 Native</td><td>F250 Native</td><td>2.2</td></tr>
<tr><td>User CHXX</td><td>Select above four types in Color Space menu (page 59)</td><td>Select above three types in Gamma menu (page 60)</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th colspan="2">Menu</th><th>Function and operation ([ ]: factory setting)</th></tr>
<tr><td rowspan="3">Color Profile</td><td></td><td>Note
When setting CRT BVM gamma data for User CHXX, first select SMPTE-C or EBU in the Color Space menu.
Color Profile data
BVM SMPTE-C: Displays with the color space and gamma of BVM SMPTE-C phosphor CRT.
BVM EBU: Displays with the color space and gamma of BVM EBU phosphor CRT.
ITU-R BT.709: Displays with the color space of three primary color chromaticity points provided by ITU-R BT.709 and gamma 2.4.
F250 Native: Displays with the color space of the BVM-F250A individual three primary color chromaticity points. This is the widest color space setting of the signal reproduced by the BVM-F250A.
User CHXX: Select when the color space and gamma are to be set individually depending on the currently selected channel.</td></tr>
<tr><td>Color Profile (BVM-F170A)</td><td>Sets the color profile (color space and gamma) to be used.
There are four Color Profile data items in which the color space and gamma have been preset and user channel data item in which Color Space (color space) and Gamma (gamma) can be selected for each individual channel.

Preset data: BVM SMPTE-C, BVM EBU, ITU-R BT.709, F170 Native
Selectable data: User CHXX (the currently selected channel number is displayed)

<table><tr><th>Color Profile</th><th>Color Space</th><th>Gamma</th></tr><tr><td>BVM SMPTE-C</td><td>SMPTE-C</td><td>CRT BVM</td></tr><tr><td>BVM EBU</td><td>EBU</td><td>CRT BVM</td></tr><tr><td>ITU-R BT.709</td><td>ITU-R BT.709</td><td>2.4</td></tr><tr><td>F170 Native</td><td>F170 Native</td><td>2.2</td></tr><tr><td>User CHXX</td><td>Select above four types in Color Space menu (page 60)</td><td>Select above three types in Gamma menu (page 60)</td></tr></table>
Note
When setting CRT BVM gamma data for User CHXX, first select SMPTE-C or EBU in the Color Space menu.
Color Profile data
BVM SMPTE-C: Displays with the color space and gamma of BVM SMPTE-C phosphor CRT.
BVM EBU: Displays with the color space and gamma of BVM EBU phosphor CRT.
ITU-R BT.709: Displays with the color space of three primary color chromaticity points provided by ITU-R BT.709 and gamma 2.4.
F170 Native: Displays with the color space of the BVM-F170A individual three primary color chromaticity points. This is the widest color space setting of the signal reproduced by the BVM-F170A.
User CHXX: Select when the color space and gamma are to be set individually depending on the currently selected channel.</td></tr>
<tr><td>Color Space (BVM-F250A)</td><td>Select the color space when User CHXX is selected in the Color Profile menu.
SMPTE-C: Color space of three primary color chromaticity points provided by the SMPTE-C standard
EBU: Color space of three primary color chromaticity points provided by the EBU standard
ITU-R BT.709: Color space of three primary color chromaticity points provided by the ITU-R BT.709 standard
F250 Native: Color space of the BVM-F250A individual three primary color chromaticity points</td></tr>
</table>

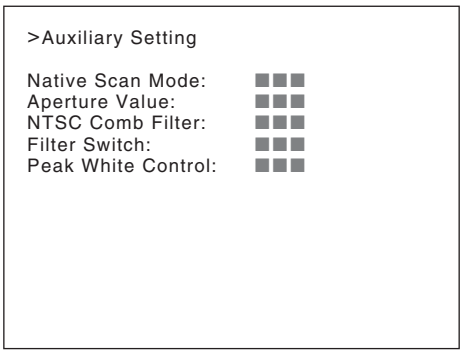
Menu		Function and operation ([ ]: factory setting)
Color Profile	Color Space (BVM-F170A)	Select the color space when User CHXX is selected in the Color Profile menu. **SMPTE-C:** Color space of three primary color chromaticity points provided by the SMPTE-C standard **EBU:** Color space of three primary color chromaticity points provided by the EBU standard **ITU-R BT.709:** Color space of three primary color chromaticity points provided by the ITU-R BT.709 standard **F170 Native:** Color space of the BVM-F170A individual three primary color chromaticity points
	Gamma	Select the gamma when User CHXX is selected in the Color Profile menu. **CRT BVM:** Gamma curve of the BVM-D or BVM-A series **2.2:** Gamma curve 2.2 **2.4:** Monitor gamma provided by ITU-R BT.1886 **Notes** • The gamma is preset to 2.4 that is provided by ITU-R BT.1886, at the factory. With this setting, dark portions may be seen darker than with conventional CRT or LCD monitors. If you wish to obtain the same gamma as that when using a conventional CRT or LCD monitor, set this item to CRT BVM or 2.2. If blocked-up shadows are seen, adjust the brightness for optimum viewing of black portions. • The factory preset black luminance of the CRT BVM setting in the Gamma menu is the same as the factory preset value for a BVM-D or BVM-A series monitor. • Adjust the brightness (black level) according to the ambient light and the black level of the image to be reproduced. Adjust the contrast (white level) according to the ambient light.
Marker Preset		Sets the marker preset data. You can select from **Marker1** to **Marker5**. **[Marker1]** *For setting the marker, see the Marker Setting menu (page 63) of the Function Setting menu.*
H Shift Offset		Sets the horizontal picture position when the analog signal is input. You can select when Format is set to Composite Auto, Composite NTSC, Composite PAL, Composite PAL-M, Composite SECAM, YC Auto, YC NTSC, YC PAL, YC PAL-M, YC SECAM, Component YPbPr or Component RGB. Set to **–100** to **+100**[1]. **[000]** 1) When the setting value is out of range, the display of the setting value is changed but the horizontal position of the picture is not changed. **To hide the characters on the monitor during adjustment** Set the CHAR OFF button of the controller to on. As the characters on the display are hidden, it becomes easy to adjust the picture. To display the characters, set the CHAR OFF button to off.
Channel Name		Sets a channel name. When the item is selected, you can select a preset name, or enter a new one. **PROG:** Program signal **EDIT:** Signal from an editor **CAM:** Camera signal **VTR:** Signal from a VTR **PREV:** Preview monitor **New Name:** Enter a new name. (Up to 20 characters can be entered.)
NTSC Setup Level		Sets the NTSC setup level. You can select when Format is set to Composite Auto, Composite NTSC, YC Auto or YC NTSC. You can select from **0%** or **7.5%**.
Component Level		Sets the component level of the analog component 480/60i signal. You can select when Format is set to Component YPbPr. You can select from **SMPTE/EBU-N10** or **Betacam**.
Betacam Setup Level		Sets the Betacam setup level when Component Level is set to Betacam. You can select from **0%** or **7.5%**.
RGB Range		Sets the quantization range of the 4:4:4 RGB SDI, HDMI or DisplayPort input signal.
	HD	Sets the quantization range when a 4:4:4 RGB SDI signal is input and the signal system is 1920 × 1080 or 1280 × 720. **Full:** 0 (black level) to 1023 (10bit)/4095 (12bit) (white level) **[Limit]:** 64(10bit)/256 (12bit) (black level) to 940 (10bit)/3760 (12bit) (white level)

Menu			Function and operation ([ ]: factory setting)
RGB Range	HDMI		Sets the display mode for the HDMI signal. **Full:** 0 (black) to 255 (8bit)/1023 (10bit)/4095 (12bit) (white level) **[Limit]:** 16 (8bit)/64 (10bit)/256 (12bit) (black level) to 235 (8bit)/940 (10bit)/3760 (12bit) (white level)
	DisplayPort		Sets the display mode for the DisplayPort signal. **[Full]:** 0 (black level) to 63 (6bit)/255 (8bit)/1023 (10bit)/4095 (12bit) (white level) **Limit:** 4 (6bit)/16 (8bit)/64 (10bit)/256 (12bit) (black level) to 58 (6bit)/235(8bit)/940 (10bit)/3760 (12bit) (white level)
	HDMI/DisplayPort Auto		Sets the manual or automatic setting for the quantization range of the HDMI or DisplayPort signal. **Off:** Select to use the quantization range set in the HDMI or DisplayPort menu. **[On]:** Select to set the quantization range automatically according to the input signal.
1080I/PsF			When the 1080i/PsF signal is input, select the display mode. You can select when Format is set to 3G/HD/SD-SDI Auto, HD/SD-SDI Auto, 4:2:2 YCbCr 10bit, 4:4:4 YCbCr 10bit, 4:4:4 RGB 10bit, 4:4:4 YCbCr 12bit, 4:4:4 RGB 12bit, Component YPbPr or Component RGB. When 1080I is selected, the I/P conversion signal is displayed. When 1080PsF is selected, the progressive conversion (PsF to P) signal is displayed. When the 1080PsF signal is input and 1080I is selected, the display delay is shortened. The signal converted from PsF to P is not displayed and the I/P conversion signal is displayed. When Format is set to 3G/HD/SD-SDI Auto and Payload ID data are superimposed on the SDI signal, 1080i/PsF processing is performed based on the Payload ID data, regardless of the setting value.
	24PsF		Sets the display mode for the 1080/24PsF signal. You can select from **1080I** or **[1080PsF]**.
	25PsF/50I		Sets the display mode for the 1080/25PsF, 50i signal. You can select from **[1080I]** or **1080PsF**.
	30PsF/60I		Sets the display mode for the 1080/30PsF, 60i signal. You can select from **[1080I]** or **1080PsF**.
Copy From			Copies signal setting data from other channel. **Note** Use the controller with software version 1.6 or higher to use the Copy From function.
	Other CH		Copies other data in this monitor. When the item is selected, you can designate the channel to be copied.
	Other Monitor		Copies data from other monitor.
		Monitor ID	Enters the ID number of the source monitor. When the NETWORK switch is set to PEER TO PEER, this is not selectable. When the item is selected, you can designate the source monitor. When the ID number is entered, you can designate the channel to be copied.
	Memory Stick		Copies data in the “Memory Stick”. When the item is selected, the file names in the source “Memory Stick” are displayed. When the file is selected, you can enter the channel number in the selected file.

Auxiliary Setting Menu

Overview

This menu is used for setting the monitor condition such as the aperture modification and decode mode.
When Auxiliary Setting is selected, the following menu is displayed.



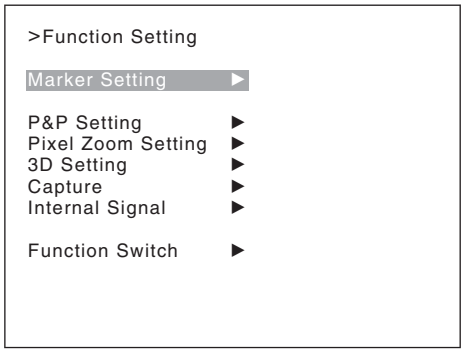
Menu Function and Operation

Menu	Function and operation ([ ]: factory setting)
Native Scan Mode	Sets the native scan mode. **[Aspect Correction]:** Displaying an SD signal of non-square pixels (the number of H pixels of the signal system is 720 or 1440) or a 640 × 480 SD signal of HDMI/DisplayPort video by scaling processing of doubling for the V direction and correct aspect ratio for the H direction and also optimizing and displaying a picture by modifying the aperture coefficient value, filter coefficient value, etc. **×1:** Input signal display without conversion **×2:** Input signal display doubled *For selecting Aspect Correction, ×1 or ×2, see "Picture Display Size" on page 120.* **Notes** • When an HD signal or the computer signal of HDMI/DisplayPort is input, the signal is displayed in ×1 mode, even if the mode is set to Aspect Correction or ×2. • When an SD signal from the BKM-229X is input and the number of the H pixels of the signal system is 1440, the signal is displayed in ×2 mode, even if the mode is set to ×1. • When you select Aspect Correction and set Native Scan to On for SD signal input, Aperture is set to On (factory setting).
Aperture Value	Sets the aperture modification value. Sets to **000** to **200**. **[090]** (when the signal is displayed in Aspect Correction mode of the native display), **[100]** (when the signal is displayed in mode other than Aspect Correction of the native display)
NTSC Comb Filter	Sets the type of NTSC comb filter. When the BKM-227W is installed, you can select the item. You can select from **[3Lines]** or **3D**. **3Lines:** Y/C separation using line correlation (3 lines) **3D:** Adaptive Y/C separation using frame correlation for judged still images, while using line correction (2 lines) for judged motion pictures
Filter Switch	Sets whether or not to turn on the Y/C separation filter (**[Off]** or **On**) when the picture is set to monochrome mode. When the BKM-227W is installed, you can select the item.
Peak White Control	When the brightness or contrast is increased, using the brightness or contrast adjustment, the picture may be clipped, because of the dynamic range of the circuit. Sets whether or not to control the signal gain automatically according to the setting value of the brightness or contrast, to prevent such clipping (**Off** or **[On]**).

Function Setting Menu

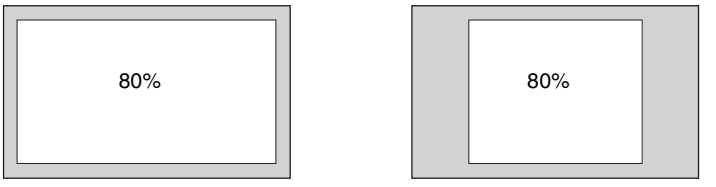
Overview

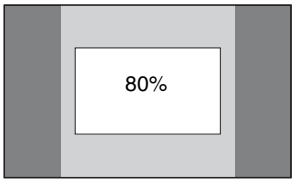
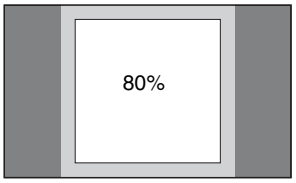
This menu is used to set the function related to the picture display.
When Function Setting is selected, the following menu is displayed.



Menu Function and Operation

Menu	Function and operation ([ ]: factory setting)
Marker Setting	Sets whether or not to display the marker when the MARKER button is pressed, and the display mode. When the item is selected, the marker preset data to be set is displayed. To change the marker preset data to be adjusted, you can select from Marker1, Marker2, Marker3, Marker4 and Marker5 in the Marker Preset menu (page 60) of the Channel Configuration menu. **To hide the characters on the monitor during setting** Set the CHAR OFF button of the controller to on. As the characters on the display are hidden, it becomes easy to adjust the picture. To display the characters, set the CHAR OFF button to off.
Aspect Marker	Sets the aspect marker display.
Aspect Marker	Sets whether or not to display the aspect marker when the MARKER button is pressed (**[Off]** or **On**).
Aspect Mode	Sets the aspect ratio of the aspect marker. You can select from **[16:9]**, **4:3** or **Variable**.
Aspect	Sets the aspect ratio of the aspect marker when Variable is selected in Aspect Mode. Set to **1.00**:1 to **3.00**:1. **[1.78]**:1
Line	Sets whether or not to display the line of the aspect marker (**Off** or [**On**]).
Thickness	Sets the thickness of the aspect marker. Set to **1** to **5** (dots). **[2]**
Color	Sets the color of the aspect marker. You can select from **[White]** (white), **Red** (red), **Green** (green), **Blue** (blue), **Yellow** (yellow), **Cyan** (cyan) or **Magenta** (magenta).

Menu			Function and operation ([ ]: factory setting)
Marker Setting		Bright	Sets the luminance of the aspect marker. You can select from **High** (bright) or **[Low]** (dark).
		Blanking	Sets the blanking outside the area of the aspect marker. **[Off]:** Blanking is released. **Black:** Blanking **Half:** Half blanking
	Area Marker 1		Sets the area marker 1.
		Area Marker 1	Sets whether or not to display the area marker 1 when the MARKER button is pressed (**Off** or **[On]**)[1]. 1) Area Marker 2: (**[Off]**, **On**)
		Aspect Mode	Sets the aspect ratio of the area marker 1. You can select from **[16:9]**, **4:3** or **Variable**. **Note** When Variable (dot) is selected in Area Size, the size of the area marker 1 is set in pixel unit of the input signal and the Aspect Mode setting becomes invalid.
		Aspect	Sets the aspect ratio of the area marker 1 when Variable is selected in Aspect Mode. Set to **1.00**:1 to **3.00**:1. **[1.78]**:1
		Area Size	Sets the size of the area marker 1. You can select from **[80%]**, **88%**, **90%**, **93%**, **Variable (%)** or **Variable (dot)**.
		Width	Sets the width of the area marker 1 when Area Size is set to Variable (%) or Variable (dot). **When Variable (%) is selected** Set to **050** to **100** (%). **[080]** **When Variable (dot) is selected** Set to **0360** to **1920** (dot). **[0512]**
		Height	Sets the height of the area marker 1 when Area Size is set to Variable (%) or Variable (dot). **When Variable (%) is selected** Set to **050** to **100** (%). **[080]** **When Variable (dot) is selected** Set to **0240** to **1080** (dot). **[0384]**
		Mode	Sets the shape of the area marker 1. You can select from **[Shape A]**, **Shape B** or **Shape C**. **Shape A** **Shape B** **Shape C** **Note** The size of the area is as follows depending on the Aspect Mode and 16:9 On/Off setting. **Example: Area Size 80%, Aspect Mode 16:9 or 4:3** **With 16:9**  Aspect Mode 16:9 Aspect Mode 4:3

Menu				Function and operation ([ ]: factory setting)
Marker Setting				**With 4:3**  Aspect Mode 16:9  Aspect Mode 4:3
			Thickness	Sets the thickness of the area marker 1. Set to **1** to **5** (dots). **[2]**
			Color	Sets the color of the area marker 1. You can select from **[White]** (white), **Red** (red), **Green** (green), **Blue** (blue), **Yellow** (yellow), **Cyan** (cyan) or **Magenta** (magenta).
			Bright	Sets the luminance of the area marker 1. You can select from **High** (bright) or **[Low]** (dark).
		Area Marker 2		Sets the area marker 2. The set items are the same as for Area Marker 1 (page 64).
		Center Marker		Sets the center marker.
			Center Marker	Sets whether or not to display the center marker (**[Off]** or **On**).
			Mode	Sets the display mode of the center marker. You can select from **[Short]** (short) or **Long** (long).
			Color	Sets the color of the center marker. You can select from **[White]** (white), **Red** (red), **Green** (green), **Blue** (blue), **Yellow** (yellow), **Cyan** (cyan) or **Magenta** (magenta).
			Bright	Sets the luminance of the center marker. You can select from **High** (bright) or **[Low]** (dark).
		H Position		Sets the horizontal position of the marker. Set to **–65** (leftward) to **+65** (rightward). **[00]**
		V Position		Sets the vertical position of the marker. Set to **–35** (downward) to **+35** (upward). **[00]**
		Copy From		Copies the other marker preset data. **Note** Use the controller with software version 1.6 or higher to use the Copy From function.
			Preset Value	Copies other data in this monitor. When the item is selected, you can select from **Marker1**, **Marker2**, **Marker3**, **Marker4** or **Marker5**.
			Other Monitor	Copies data from another monitor.
			Monitor ID	Enter the ID number of the source monitor. When the NETWORK switch is set to PEER TO PEER, this is not selectable. When the ID number is entered, you can select from **Marker1**, **Marker2**, **Marker3**, **Marker4** or **Marker5**.
			Memory Stick	Copies data in the “Memory Stick”. When the item is selected, the file names in the source “Memory Stick” are displayed. When the file is selected, you can select from **Marker1**, **Marker2**, **Marker3**, **Marker4** or **Marker5**.
P&P Setting				Sets the multi display setting.
	Side by Side			Sets the side by side display.
		Line Display		Sets display mode of the boundary line. **[Off]:** Not displayed. **On:** Always displayed.

Menu			Function and operation ([ ]: factory setting)
P&P Setting		Line Color	Sets the boundary line color of two pictures. You can select from **[White]** (white), **Red** (red), **Green** (green), **Blue** (blue), **Yellow** (yellow), **Cyan** (cyan), **Magenta** (magenta) or **Black** (black).
		Line Bright	Sets the luminance of the boundary line. You can select from **High** (bright) or **[Low]** (dark).
Pixel Zoom Setting			Sets the pixel zoom.
	Line Color		Sets the boundary line color. You can select from **[White]** (white), **Red** (red), **Green** (green), **Blue** (blue), **Yellow** (yellow), **Cyan** (cyan) or **Magenta** (magenta) or **Black** (black).
3D Setting			Sets the mode of Horopter Check of the 3D signal analyzing function. This item can be selected when the BKM-250TG is installed, and is available for dual-stream HD-SDI signal input.
	Horopter Check		Changes the display mode of the left and right 3D video signals.
		Left	Selects the display mode of the left signal. **[Normal]:** Normal picture **Black:** Displays a black signal (the video signal is not displayed). **Mono:** Displays the video signal in monochrome mode. **Red:** Displays only the red component of the video signal. **Blue:** Displays only the blue component of the video signal.
		Right	Selects the display mode of the right signal. **[Normal]:** Normal picture **Black:** Displays a black signal (the video signal is not displayed). **Mono:** Displays the video signal in monochrome mode. **Red:** Displays only the red component of the video signal. **Blue:** Displays only the blue component of the video signal.
Capture			Captures the still picture for the standard of the color evaluation (HD Frame Capture). **Note** Use the controller with software version 1.6 or higher to use the HD Frame Capture function.
	Load		Loads the captured picture from the “Memory Stick”. When the item is selected, you can select the file name to be loaded.
	Rename		Changes a file name of the captured picture in the “Memory Stick”. When the item is selected, the file names are displayed. When the file name is selected, you can change the file name (1 to 20 characters). **Existing file name:** Enter the existing file name. **New Name:** Enter a new file name. **Note** The “.” must not be used as the first character.
	Delete		Deletes the file of the captured picture in the “Memory Stick”. When the item is selected, the file names in the “Memory Stick” are displayed. When the file name is selected, the following message appears. **Delete this file?** **OK:** To delete the data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button.
Internal Signal			Selects the internal signal display. You can select from **PLUGE**, **Gray** (20% gray signal), **White** (100% white signal), **5 step** (5 step gray scale signal), **Ramp**, **Color Bars** or **Black** (0% black signal). To cancel the internal signal, select one from the channel numbers 1 to 30 with the numeric buttons of the controller. **Note** Internal Signal is not set in the following cases: • When the HDMI/DisplayPort computer signal is input • When Side by Side is set to On

Menu	Function and operation ([ ]: factory setting)
Function Switch	Sets the function to be assigned to the function button of the controller in the menu.
Scan Mode	Sets the scan mode of the picture. **[Normal Scan]:** Normal scan **Under Scan:** 3% under scan **Over Scan:** Mask of 5% over scan portion in the normal scan **Note** The scan mode is not selectable in the following cases: • When Native Scan is set to On • When the input signal has no sync signal • When the internal signal is displayed • When Side by Side is set to On
Native Scan	Sets whether or not to display the native scan (**[Off]** or **On**). **Note** The native scan is not selectable in the following cases: • When the input signal has no sync signal • When Side by Side is set to On • When Pixel Zoom is set to on • When the HDMI/DisplayPort computer signal is input (The native scan is displayed regardless of the setting.) • When the signal system is the SD signal of 720 × 576 or 1440 × 576, Native Scan Mode is set to Aspect Correction × 2 and the internal signal is displayed (Native Scan is set to Off and the normal scan is displayed regardless of the setting.)
16:9	Sets whether or not to display the aspect in 16:9 (**Off** or **[On]**). **Notes** • The aspect ratio is not selectable in the following cases: – When Native Scan Mode is set to ×1 or ×2 and Native Scan is set to On – When the input signal has no sync signal • The aspect ratio may be fixed to 16:9 due to the signal format. For details, see “Available Signal Formats” on page 113.
H Delay	Sets whether or not to display in H delay (**[Off]** or **On**). When the 720/24, 25, 30P signal is input, the display position is changed with the PHASE knob. **Notes** • The picture is not displayed in H delay in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When Format of the Channel Configuration menu is set to HDMI or DisplayPort – When Side by Side is set to On – When the captured frame is displayed • The 3D signal analyzing function may not be performed correctly when H Delay is On.
V Delay	Sets whether or not to display in V delay (**[Off]** or **On**). **Note** The picture is not displayed in V delay in the following cases: • When the input signal has no sync signal • When the internal signal is displayed • When Format of the Channel Configuration menu is set to HDMI or DisplayPort • When Side by Side is set to On • When the captured frame is displayed
External Sync	Sets whether or not to select external sync mode (**[Off]** or **On**) when the analog component signal or analog RGB signal format is input. When On is selected, the signal to be displayed is synchronized with the sync signal input to the SYNC connector (External Sync). When Off is selected, the signal to be displayed is synchronized with the sync signal included in the signals being monitored (Internal Sync). **Notes** • When Component is set to YPbPr or RGB in Format of the Channel Configuration menu, you can set the external sync. • The external sync is not set in the following cases: – When the internal signal is displayed – When the captured frame is displayed

Menu		Function and operation ([ ]: factory setting)
Function Switch	Comb	Sets whether or not to use the comb filter (**Off** or **[On]**). When Off is selected, the trap · band-pass filter (Trap/BPF) is selected. You can select the type of comb filter in NTSC Comb Filter menu (page 62) of the Auxiliary Setting menu. **Notes** • When Composite is set to Auto, NTSC, PAL or PAL-M in Format of the Channel Configuration menu, you can set the comb filter. • The comb filter is not set in the following cases: – When the internal signal is displayed – When the captured frame is displayed
	Aperture	Sets whether or not to function the aperture modification (**Off** or **On**). **[Off]** (when the signal is displayed in Aspect Correction mode of the native display), **[On]** (when the signal is displayed in mode other than Aspect Correction of the native display) **Note** When the HDMI/DisplayPort computer signal is input, the aperture modification does not function.
	Mono	Sets whether or not to display in monochrome mode (**[Off]** or **On**).
	Blue Only	Sets whether or not to display only the blue signal as a monochrome picture after cutting the red and green signals (**[Off]** or **On**).
	R Off	Sets whether or not to cut the red signal (**[Off]** or **On**).
	G Off	Sets whether or not to cut the green signal (**[Off]** or **On**).
	B Off	Sets whether or not to cut the blue signal (**[Off]** or **On**).
	Chroma Up	Sets whether or not to increase the chroma value by 12 dB (**[Off]** or **On**). **Note** The chroma value is not increased in the following cases: • When the signal to be displayed is RGB • When the composite signal is automatically displayed in monochrome depending on the color discrimination of the input adaptor • When the internal signal is displayed
	Interlace	Sets whether or not to display in interlace mode (**[Off]** or **On**). **Notes** • Set Native Scan to On for the interlace display. • The picture is not displayed in interlace mode in the following cases: – When Side by Side is set to On – When Pixel Zoom is set to on *For details of this menu, see "Selecting Display Mode" on page 88.*
	Marker	Sets whether or not to display all markers (**[Off]** or **On**). **Notes** • The marker is not displayed in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The marker may be displayed in an incorrect position when External Sync is On.
	Aspect Marker	Sets whether or not to display the aspect marker (**[Off]** or **On**). **Notes** • The aspect marker is not displayed in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The aspect marker may be displayed in an incorrect position when External Sync is On.

Menu		Function and operation ([ ]: factory setting)
Function Switch	Area Marker 1	Sets whether or not to display the area marker 1 (**[Off]** or **On**). **Notes** • The area marker 1 is not displayed in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The area marker 1 may be displayed in an incorrect position when External Sync is On.
	Area Marker 2	Sets whether or not to display the area marker 2 (**[Off]** or **On**). **Notes** • The area marker 2 is not displayed in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The area marker 2 may be displayed in an incorrect position when External Sync is On.
	Center Marker	Sets whether or not to display the center marker (**[Off]** or **On**). **Notes** • The center marker is not displayed in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The center marker may be displayed in an incorrect position when External Sync is On.
	Aspect Marker-Line	Sets whether or not to display the line of the aspect marker (**[Off]** or **On**). **Notes** • The line of the aspect marker is not displayed in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The line of the aspect marker may be displayed in an incorrect position when External Sync is On.
	Aspect Blanking-Half	Sets whether or not to set the Aspect Blanking (the blanking outside the area of the aspect marker) to half blanking (**[Off]** or **On**). **Notes** • The Aspect Blanking is not set to half blanking in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The Aspect Blanking may be displayed in an incorrect position when External Sync is On.

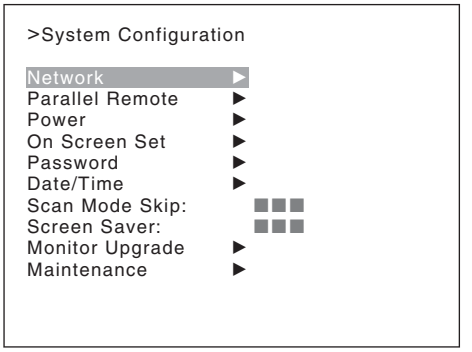
Menu		Function and operation ([ ]: factory setting)
Function Switch	Aspect Blanking-Black	Sets whether or not to set the blanking level of the Aspect Blanking (the blanking outside the area of the aspect marker) to 0% black level (**[Off]** or **On**). **Notes** • The Aspect Blanking is not set to 0% black level in the following cases: – When the input signal has no sync signal – When the internal signal is displayed – When the HDMI/DisplayPort computer signal is input – When H Delay/V Delay is set to On – When Side by Side is set to On – When Pixel Zoom is set to on • The Aspect Blanking may be displayed in an incorrect position when External Sync is On.
	Side by Side	Sets whether or not to display in the side by side display (**[Off]** or **On**). **Note** The side by side display is not set in the following cases: • When the internal signal is displayed • When Pixel Zoom is set to on
	Audio Level Meter	Sets whether or not to display the audio level meter (**[Off]** or **On**). **Note** When the option port number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu, the audio level meter cannot be displayed.
	ALM Hold Reset	When the item is selected, the peak hold of the audio level meter is canceled. **Note** The ALM Hold Reset is not selected in the following cases: • When the option slot number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu • When Audio Level Meter is set to Off • When Peak Hold is set to Off or Auto in the Audio Level Meter menu of the On Screen Set menu of the System Configuration menu
	Time Code	Sets whether or not to display the time code (**[Off]** or **On**).
	Difference	Sets whether or not to display the difference between the luminance of the left 3D video signal and that of the right signal (**[Off]** or **On**). This item is available for dual-stream HD-SDI signals. **Notes** • The Difference display cannot be set in the following cases: – When the option port number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu – When dual-link display is used – When the internal signal is displayed – When a captured frame is displayed – When Side by Side is set to On • The Difference display may not be performed correctly when H Delay is set to On. • If saving is performed in HD Frame Capture, this function is deactivated and the normal display is restored.
	Checkerboard	Sets whether or not to display the left and right 3D video signals in a checkerboard pattern (**[Off]** or **On**). This item is available for dual-stream HD-SDI signals. **Notes** • The Checkerboard display cannot be set in the following cases: – When the option port number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu – When dual-link display is used – When the internal signal is displayed – When a captured frame is displayed – When Side by Side is set to On • The Checkerboard display may not be performed correctly when H Delay is set to On. • If saving is performed in HD Frame Capture, this function is deactivated and the normal display is restored.

Menu		Function and operation ([ ]: factory setting)
Function Switch	L/R Switch	Sets whether or not to display either the left and right 3D video signals on the screen by switching them alternately (**[Off]** or **On**). This item is available for dual-stream HD-SDI signals. **Notes** • The L/R Switch display cannot be set in the following cases: – When the option port number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu – When dual-link display is used – When the internal signal is displayed – When a captured frame is displayed – When Side by Side is set to On • The L/R Switch display may not be performed correctly when H Delay is set to On. • If saving is performed in HD Frame Capture, this function is deactivated and the normal display is restored.
	Horopter Check	Sets whether or not to display the left and right 3D video signals in various modes (**[Off]** or **On**). This item is available for dual-stream HD-SDI signals. **Notes** • The Horopter Check display cannot be set in the following cases: – When the option port number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu – When dual-link display is used – When the internal signal is displayed – When a captured frame is displayed – When Side by Side is set to On • The Horopter Check display may not be performed correctly when H Delay is set to On. • If saving is performed in HD Frame Capture, this function is deactivated and the normal display is restored.
	Flip H	Sets whether or not to invert the 3D video signals horizontally to be displayed ([**Off**] or **On**). This item is available for dual-stream HD-SDI signals. **Notes** • The Flip H display cannot be set in the following cases: – When the option port number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu – When dual-link display is used – When the internal signal is displayed – When a captured frame is displayed – When Side by Side is set to On • The Flip H display may not be performed correctly when H Delay is set to On.

System Configuration Menu

Overview

This menu is used to set the system such as the network, parallel remote control function, etc.
When System Configuration is selected, the following menu is displayed.



Menu Function and Operation

Menu	Function and operation ([ ]: factory setting)
Network	Sets the remote control function of the network.
Monitor ID	Enter a monitor ID number. Set to **01** to **99**. **[01]**
Group ID	Enter a group ID number. Set to **01** to **99**. **[01]**
Network Setting	Sets the IP address, subnet mask and default gateway. For the setting value, consult the network administrator.
IP Address	Sets the IP address. **[192.168.000.001]** **Note** When the NETWORK switch is set to PEER TO PEER, the IP address is set to “192.168.0.1” regardless of the display. When the NETWORK switch is set to LAN, the IP address is set to the displayed one.
Subnet Mask	Sets the subnet mask. **[255.255.255.000]** **Note** When the NETWORK switch is set to PEER TO PEER, the subnet mask is set to “255.255.255.000” regardless of the display. When the NETWORK switch is set to LAN, the subnet mask is set to the displayed one.
Default Gateway	Sets whether or not to set the default gateway (**[Off]** or **On**).
Address	Sets the address of the default gateway. **[---.---.---.---** (no setting)**]**
Cancel	Cancels the changed or confirmed setting.
Confirm	Saves the changed or confirmed setting.
Protocol Setting	Sets the required items for communications such as the port number. For the setting value, consult the network administrator.
SDCP/SDAP Community	Sets the SDCP/SDAP community name. When the item is selected, you can enter the community name (four characters). **SONY:** SONY is entered as a community name. **New Name:** Enter a new name.

Menu			Function and operation ([ ]: factory setting)
Network		SDCP Port No	Sets the SDCP port number. Set to **53434** to **53534**. **[53484]**
		SDAP Port No	Sets the SDAP port number. Set to **53812** to **53912**. **[53862]**
		SDAP Broadcast	Sets whether or not to issue the SDAP (**Disable** or **[Enable]**).
		SDAP Broadcast Period	Sets the period (seconds) to issue the SDAP. Set to **05** to **30**. **[15]**
		Acceptable IP Address	Sets the IP address to connect. When the item is selected, you can set **IP1** to **IP4**. **Cancel:** Cancels the changed or confirmed setting. **Confirm:** Saves the changed or confirmed setting.
		Reset Protocol Setting	Resets the protocol setting. When the item is selected, the following message appears. **Are you sure?** **OK:** To reset data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button.
Parallel Remote			Sets the parallel remote function.
	Parallel Remote		Selects whether or not to use the parallel remote functions. (**[Off]** or **On**)
	1 Pin to 8 Pin		Assigns the function to each pin of the PARALLEL REMOTE connector when Parallel Remote is set to On. The default assignment of functions is as follows: 1 Pin: **[CH01]** 2 Pin: **[CH02]** 3 Pin: **[External Sync]** 4 Pin: **[Mono]** 5 Pin: **[Marker]** 6 Pin: **[unused]** 7 Pin: **[unused]** 8 Pin: **[Tally]** You can change the assignment to the following functions for pins 1 to 8. The functions shown with item name only are the same as those assigned to the function buttons on the controller. *For details on these functions, see "Function Key" (page 83) of the Controller menu.* Parallel Remote (1/5) **CH01 to 30:** Selects a channel number. Enter the desired channel number with the numeric buttons. **----:** Unused **Under Scan**,[1] **Over Scan**,[1] **Native Scan**, **16:9**, **H Delay**, **V Delay**, **External Sync**, **Comb** 1) The scan mode is set to Normal Scan when Under Scan or Over Scan is off. Parallel Remote (2/5) **Aperture**, **Mono**, **Blue Only**, **R Off**, **G Off**, **B Off**, **Chroma Up**, **Interlace** **Tally:** The function to turn on the tally lamp **Power Off:** The monitor power function Parallel Remote (3/5) **Marker**, **Aspect Marker**, **Area Marker 1**, **Area Marker 2**, **Center Marker**, **Aspect Marker-Line**, **Aspect Blanking-Half**, **Aspect Blanking-Black** Parallel Remote (4/5) **Side by Side**, **Audio Level Meter**, **ALM Hold Reset**, **Time Code** Parallel Remote (5/5) **Difference**, **Checkerboard**, **L/R Switch**, **Horopter Check**, **Flip H** *For the pin assignment, see "PARALLEL REMOTE connector" in Location and Function of Parts on page 17 (BVM-F250A) or page 20 (BVM-F170A).*

Menu			Function and operation ([ ]: factory setting)
Power			Sets the status of the monitor when the main power is turned on or the power is turned on by remote operation.
	Standby Mode		Sets the status when the MAIN POWER switch is turned on. **[Off]:** Operation mode **On:** Standby mode
	Power On Status		Sets the input channel when the power is turned on. **[Last]**: Sets to the channel that was selected at the time the power was last turned off. **CH:** Sets to the channel number specified in Default CH.
	Default CH		Selects the channel (**01** to **30**) when the Power On Status is set to CH. **[01]**
On Screen Set			Sets the items for the screen display.
	Input Information		Sets the display of the input information.
		Format	Sets the display mode of the signal system. **[Auto]:** Disappears after being displayed for a while. **Off:** Not displayed. **Note** The picture rate display is 23.98, 29.97 or 59.94 (example 1080/59.94P) when the signal is input from the standard SDI input or the BKM-250TG, Format is set to 3G/HD/SD-SDI Auto (page 55) in the Channel Configuration menu, and the Picture Rate information for the Payload ID is 23.98, 29.97 or 59.94, even if the monitor determines the picture rate as 24 Hz, 30 Hz or 60 Hz. *For details on Payload ID, see "SDI Payload ID Status" (page 81) of the System Status menu or "Displaying the Monitor Status Page" (page 99).*
		Position	Sets the display position for the signal system. You can select from **Top Left** (top left), **Top Center** (top center), **Top Right** (top right), **[Bottom Left]** (bottom left), **Bottom Center** (bottom center) or **Bottom Right** (bottom right).
		CH No	Sets the display mode of the channel number. **[Auto]:** Disappears after being displayed for a while. **Off:** Not displayed.
		Position	Sets the display position for the channel number. You can select from **Top Left** (top left), **Top Center** (top center), **[Top Right]** (top right), **Bottom Left** (bottom left), **Bottom Center** (bottom center) or **Bottom Right** (bottom right).
		CH Name	Sets the display mode of the channel name. **[Auto]:** Disappears after being displayed for a while. **Off:** Not displayed.
		Position	Sets the display position for the channel name. You can select from **[Top Left]** (top left), **Top Center** (top center), **Top Right** (top right), **Bottom Left** (bottom left), **Bottom Center** (bottom center) or **Bottom Right** (bottom right).
		Scan Mode	Sets the display mode of the scan mode. **[Auto]:** Disappears after being displayed for a while. **Off:** Not displayed.
		Position	Sets the display position for the scan mode. You can select from **Top Left** (top left), **Top Center** (top center), **Top Right** (top right), **Bottom Left** (bottom left), **Bottom Center** (bottom center) or **[Bottom Right]** (bottom right).
	Closed Caption		Sets the items for the closed caption display. When the BKM-244CC is installed, you can select the item. The setting is effective for the input signal of the BKM-244CC.
		Closed Caption	Sets whether or not to display closed caption signal (**[Off]** or **On**).
		Type	Sets the closed caption type. **[Auto1]:** Select to set to 608(VBI) when the SD-SDI signal is input or 708 when the HD-SDI signal is input. **Auto2:** Select to set to 608(VBI) when the SD-SDI signal is input or 608(708) when the HD-SDI signal is input. **708:** Select to display the closed caption signal of the EIA/CEA-708 standards. **608 (708):** Select to display the closed caption signal of the EIA/CEA-608 standards transmitted by EIA/CEA-708 standards. **608 (VBI):** Select to display the closed caption signal of the EIA/CEA-608 standards transmitted by using the line 21.

Menu			Function and operation ([ ]: factory setting)
On Screen Set		Service 708	Sets Service when Type is set to 708. You can select from **Service1** to **Service6**. **[Service1]**
		Service 608	Sets Service when Type is set to 608 (VBI) or 608 (708). You can select from **CC1** to **CC4** or **Text1** to **Text4**. **[CC1]**
		OSD Level	Sets the luminance of the letter. You can select from **High** (bright), or **[Low]** (dark).
	Audio Level Meter		Sets the audio level meter. When the BKM-250TG is installed, you can select the item. The setting is effective for the input signal of the BKM-250TG. **Note** As the audio level meter is superimposed on the video signal, the audio level meter may be cut partially because of the scan mode setting of the monitor.
		Audio CH	Sets the audio channel. You can select from **[CH1-CH8]** or **CH9-CH16**.
		Position	Sets the display position of the audio level meter. You can select from **[Bottom]** (bottom) or **Top** (top).
		Transparency	Sets the transparency of the background of the audio level meter. You can select from **Black** (black) or **[Half]** (translucence).
		Peak Hold	Sets the peak hold mode of the audio level meter. **[Off]:** The peak hold does not function. **Auto:** The peak hold is automatically released after about 1 second. **Manual Reset:** The peak hold is released manually. To release the peak hold, select ALM Hold Reset (page 70) in the Function Switch menu of the Function Setting menu or set ALM Hold Reset to on by pressing the ALM Hold Reset button[1)] of the controller. 1)ALM Hold Reset is assigned to the controller in the Function Key menu (page 83) of the Controller menu.
	Time Code		Sets the time code. The setting is effective when the SDI signal is input. **Note** As the time code is superimposed on the video signal, the time code may be cut partially because of the scan mode setting of the monitor.
		VITC/LTC	Sets the type of the time code. You can select from **[VITC]** or **LTC**.
		Position	Sets the display position of the time code. You can select from **Top Left** (top left), **[Top Center]** (top center), **Top Right** (top right), **Bottom Left** (bottom left), **Bottom Center** (bottom center) or **Bottom Right** (bottom right).
		Level	Sets the luminance of the time code. You can select **High** (bright) or **[Low]** (dark).
	Over Range		When a portion of the signal exceeds the dynamic range of the internal signal processing circuit, it is determined as Over Range. This menu sets whether or not to display a zebra pattern on the detected Over Range portion (**[Off]**, **On**). When Over Range is detected, adjust the contrast or brightness to a lower level. **Note** When Over Range occurs, the OVER RANGE lamp on the front of the unit lights in amber regardless of the setting of this menu.
Password			Sets the password for the menu. Enter a four-digit number for the password. **[9999]**
	Change Password		Changes the password. **Enter New Password:** Enter a new password with the numeric buttons and press the ENTER (Ent) button. **Re-Enter Password:** Enter the new password again and press the ENTER (Ent) button. The password is registered. To change it, press the MENU button.

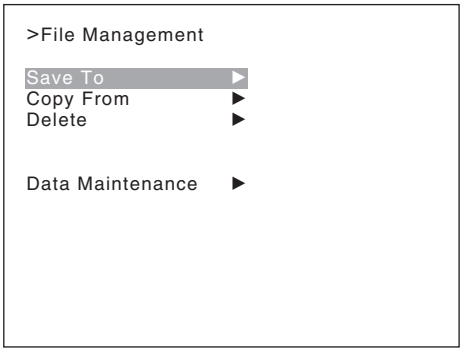
Menu				Function and operation ([ ]: factory setting)
Password	Apply Password			Sets whether or not to apply the password to each menu (**Yes** or **[No]**).
		Adjustment		**Yes:** Apply the password. **[No]:** Not apply the password.
		Channel Configuration		**Yes:** Apply the password. **[No]:** Not apply the password.
		Auxiliary Setting		**Yes:** Apply the password. **[No]:** Not apply the password.
		Function Setting		**Yes:** Apply the password. **[No]:** Not apply the password.
		System Configuration		**Yes:** Apply the password. **[No]:** Not apply the password.
			Individual Item	Sets whether or not to apply the password to the System Configuration menu.
			Network	**Yes:** Apply the password. **[No]:** Not apply the password.
			Parallel Remote	**Yes:** Apply the password. **[No]:** Not apply the password.
			Power	**Yes:** Apply the password. **[No]:** Not apply the password.
			On Screen Set	**Yes:** Apply the password. **[No]:** Not apply the password.
			Date/Time	**Yes:** Apply the password. **[No]:** Not apply the password.
			Scan Mode Skip	**Yes:** Apply the password. **[No]:** Not apply the password.
			Screen Saver	**Yes:** Apply the password. **[No]:** Not apply the password.
		File Management		**Yes:** Apply the password. **[No]:** Not apply the password.
		Controller		**Yes:** Apply the password. **[No]:** Not apply the password.
		Key Protect		**Yes:** Apply the password. **[No]:** Not apply the password.
Date/Time				When the item is selected, you can set or change the date and time.
	Year			Sets the year.
	Month			Sets the month.
	Day			Sets the day.
	Hour			Sets the hour (in 24-hour display).
	Minute			Sets the minute.
	Cancel			Cancels the setting.
	Confirm			Executes the setting. Second is set to 0.
Scan Mode Skip				Sets the scan mode to be skipped when the SCAN button is pressed in the single mode connection. **[None]:** No scan is skipped. **Under Scan:** The under scan is skipped. **Over Scan:** The over scan is skipped.

Menu		Function and operation ([ ]: factory setting)
Screen Saver		Sets the screen saver function. **[On]:** When a still image is displayed on the screen for 10 minutes or more, the brightness of the screen is automatically reduced to prevent burn-in of the screen. The brightness returns to normal if you input a moving image or operate the controller. Approximately one minute before the screen saver is activated, the ECO lamp starts flashing rapidly. Then the flashing slows in green when the screen saver is activated. **Off:** Disables the screen saver function. **Note** The screen saver function is automatically set to On during manual adjustment of the color temperature, contrast, brightness, chroma, and phase, regardless of the setting of this item.
Monitor Upgrade		Upgrades the monitor. When the item is selected, the screen for inputting the password is displayed. After the 4-digit password is entered, the current versions of Software Version, Kernel Version, FPGA Version, and DisplayPort Version are displayed. For the FPGA Version, FPGA1 , FPGA2 and FPGA CORE are displayed from left to right. *For the password, see Password (page 75) of the System Configuration menu.* *For details on upgrading the monitor, see "Upgrading the Monitor and Controller" on page 102.*
	Software Upgrade	Upgrades the software for the monitor.
	Kernel Upgrade	Upgrades the kernel of the monitor.
	FPGA Upgrade	Upgrades the FPGA data of the monitor.
	DisplayPort Upgrade	Upgrades the DisplayPort data of the monitor.
Maintenance		The menu for the Sony service representative is displayed.

File Management Menu

Overview

The system data is saved, copied and deleted.
When File Management is selected, the following menu is displayed.



Note

Use the controller with software version 1.6 or higher to use the File Management function.

Menu Function and Operation

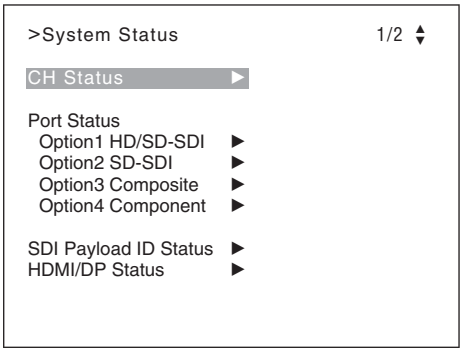
Menu	Function and operation ([ ]: factory setting)
Save To	Saves the data in the “Memory Stick”. **Note** Use the “Memory Stick” after formatting.
Memory Stick	Saves the data in the “Memory Stick”. When the item is selected, you can select the file to save data, or create a new file name. **New Name:** Enter a new name of the new file (1 to 20 characters). **Existed file name:** Select the file to save data. The following message appears. **Overwrite this file?** **OK:** To overwrite the data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button. **Note** When a new name is entered, the “.” must not be used as the first character.
Copy From	Copies the data.
Other Monitor	Selects the data of other monitor.
Monitor ID	Enter the ID number of the source monitor. When the NETWORK switch is set to PEER TO PEER, this is not selectable. When the ID number is entered, you can select the data to be copied. **All:** Copies all data. **Picture Preset:** Copies the picture preset data. **Color Temp:** Copies the color temperature data. **CH Memory:** Copies the channel memory data. **Marker:** Copies the preset data of the marker. **System:** Copies the system data.

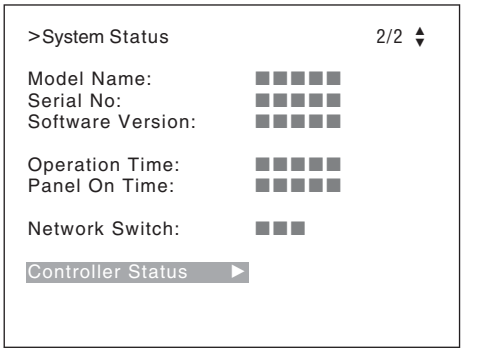
Menu		Function and operation ([ ]: factory setting)
Copy From	Memory Stick	Selects the data in the source “Memory Stick”. When the item is selected, the file names in the “Memory Stick” are displayed. When the item is selected, you can select the data to be copied. **All:** Copies all data. **Picture Preset:** Copies the picture preset data. **Color Temp:** Copies the color temperature data. **CH Memory:** Copies the channel memory data. **Marker:** Copies the preset data of the marker. **System:** Copies the system data.
Delete		Deletes the file in the “Memory Stick”.
	Memory Stick	Deletes the file in the “Memory Stick”. When the item is selected, the file names in the “Memory Stick” are displayed. When the file is selected, the following message appears. **Delete this file?** **OK:** To delete the data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button.
Data Maintenance		Does maintenance the system data.
	Back Up System Data	Writes the data to the “Memory Stick” as the backup data. The “**In progress ■**” is displayed and “■” flashes during data writing. (It may take some time to write the data.)
	Restore System Data	Reads the data from the “Memory Stick”. When the item is selected, the following message appears. **All data will be restored** **and monitor will restart** **Are you sure?** **OK:** To continue, press the ENTER (Ent) button. Reads the data from the “Memory Stick” and automatically restarts the monitor. **Cancel:** To cancel, press the MENU button. Returns to the Data Maintenance menu.

System Status Menu

Overview

This menu is used to view general data about the monitor status, current channel, etc.
When System Status is selected, the following menus are displayed.





Menu Function and Operation

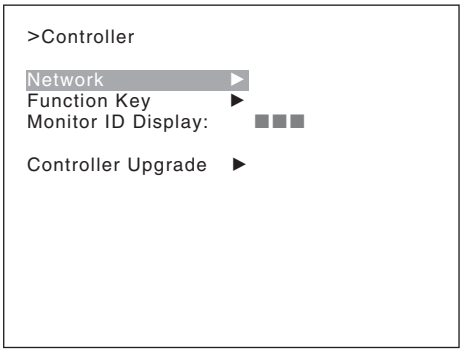
Menu	Function and operation ([ ]: factory setting)
CH Status	Displays the information on the used channels. The information of the internal signal assigned to the channel number is displayed on the channels 91 to 97. **CH:** Channel number **Por:** Port number **Inp:** Input connector number **Format:** Input signal format **Name:** Channel name *For details on the assigned signal, see "Channel numbers 91 to 97 assignment" on page 43.*
Port Status **Option1 to Option4**	Displays the type of input adaptor installed in Option1 to Option4. **SD-SDI:** When BKM-220D is installed **Composite:** When BKM-227W is installed **Component:** When BKM-229X is installed **HD/SD-SDI:** When BKM-243HS or BKM-244CC is installed **3G/HD/SD-SDI:** When BKM-250TG is installed **Empty:** When the adaptor is not installed **Unknown:** When non-supported adaptor is installed When the item is selected, the model name and serial number of the installed input adaptor are displayed. **Model Name:** Model name **Serial No:** Serial number

Menu	Function and operation ([ ]: factory setting)
SDI Payload ID Status	Displays the information of the Payload ID data superimposed on the SDI signal and current signal status of the monitor. When the option port number in which the BKM-250TG is installed is selected in Input Port of the Channel Configuration menu, the following is displayed. **OptionX/InputX:** Input port and input connector of the displayed information Standard or Option1 to 4 is displayed as an input port, and Input1 or Input2 is displayed as an input connector. **Payload ID:** XX XX XX XX (4-byte data for Payload ID of the SMPTE-352M standard) Displays the 4-byte data in hexadecimal in sequence of Byte 1, Byte 2, Byte 3 and Byte 4. When the Payload ID information is not set, only Current Status is displayed and "---" is displayed for other items. When the following information is not decoded, Unknown is displayed. **Video Standard:** Decode display of Byte 1_Bit 6-0 (SD-SDI/HD-SDI/3G-SDI/Dual Link HD-SDI, etc.) **Sampling Structure:** Decode display of Byte 3_Bit 3-0 (4:2:2 Y/Cb/Cr / 4:4:4 Y/Cb/Cr / 4:4:4 G/B/R, etc.) **Bit Depth:** Decode display of Byte 4_Bit 1-0 (8bit/10bit/12bit) **Picture Rate:** Decode display of Byte 2_Bit 3-0 (23.98/24/25/29.97/30/50/59.94/60) **Scanning Method:** Decode display of Byte 2_Bit 7/decode display of Byte 2_Bit 6 (Interlace/Progressive, Progressive/Progressive, etc.) **Link Number:** Decode display of Byte 4_Bit 7-6 (Single/Link_1 / Link_2 / Link_3 / Link_4) **Current Status:** Current status of the monitor **Format:** Displayed as "Video Standard + Sampling Structure + Bit Depth" Video Standard: 3G/DL/HD/SD Sampling Structure: 422 YCbCr/444 YCbCr/ 444 RGB Bit Depth: 10/12 **I/PsF/P:** Interlace/PsF/Progressive *You can confirm the same information using the Status button on the controller. For details, see "Displaying the Monitor Status Page" (page 99).*
HDMI/DP Status	Displays the signal information of the HDMI or DisplayPort signal. **Pixel Encoding:** RGB 4:4:4/YCbCr 4:4:4/YCbCr 4:2:2 **Color Depth:** 8bit/10bit/12bit (HDMI signal), or 6bit/8bit/10bit/12bit (DisplayPort signal) **Matrix:** ITU-R BT.601/ITU-R BT.709 **RGB Range:** Limit/Full **Notes** • When HDMI/DisplayPort Auto is set to On in the Matrix menu of the Channel Configuration menu, the Matrix status is displayed. • When HDMI/DisplayPort Auto is set to On in the RGB Range menu of the Channel Configuration menu, the RGB Range status is displayed. *You can confirm the same information using the Status button on the controller. For details, see "Displaying the Monitor Status Page" (page 99).*
Model Name	Displays the model name of the monitor.
Serial No	Displays the serial number of the monitor.
Software Version	Displays software version of the monitor.
Operation Time	Displays operation time (hours, in total) of the monitor.
Panel On Time	Displays brighten time (hours, in total) of the panel.
Network Switch	Displays the NETWORK switch setting.
Controller Status	Displays information on the controller.
Model Name	Displays the model name.
Serial No	Displays the serial number.
Software Version	Displays software version.
Network Switch	Displays the NETWORK switch setting.

Controller Menu

Overview

This menu is for the network setting and assigning the function to the function button of the controller.
When Controller is selected, the following menu is displayed.



Menu Function and Operation

Menu	Function and operation ([ ]: factory setting)
Network	Sets the remote control function of the network. For the setting value, consult the network administrator.
Network Setting	Sets the IP address, subnet mask and default gateway.
IP Address	Sets the IP address. **[192.168.000.100]** **Note** When the NETWORK switch is set to PEER TO PEER, the IP address is set to "192.168.0.100" regardless of the display. When the NETWORK switch is set to LAN, the IP address is set to the displayed one.
Subnet Mask	Sets the subnet mask. **[255.255.255.000]** **Note** When the NETWORK switch is set to PEER TO PEER, the subnet mask is set to "255:255:255:000" regardless of the display. When the NETWORK switch is set to LAN, the subnet mask is set to the displayed one.
Default Gateway	Sets whether or not to set the default gateway (**[Off]** or **On**).
Address	Sets the address of the default gateway. **[---.---.---.---** (no setting)**]**
Cancel	Cancels the changed or confirmed setting.
Confirm	Saves the changed or confirmed setting.
SNMP Setting	Sets SNMP. For the setting value, consult the network administrator.
Contact	Sets the information of the administrator. When the item is selected, you can enter a new name. **New Name:** Enter a new name (up to 20 characters).
Name	Sets the information for the administration (device ID). When the item is selected, you can enter a new name. **New Name:** Enter a new name (up to 20 characters).

Menu				Function and operation ([ ]: factory setting)
Network		Location		Sets the location information. When the item is selected, you can enter a new name. **New Name:** Enter a new name (up to 20 characters).
		Trap		Sets the address to send the information.
			Mode	Sets the settings to send information manually or automatically (**[Manual]** or **Auto**). This item cannot be selected when the monitor is controlled with BKM-15R or BVM-A14F5.
			Trap Address Setting	Sets the IP address to send the information. **[000.000.000.000]** When Mode is set to Manual or the monitor is controlled with BKM-15R or BVM-A14F5, you can select this item. When the item is selected, you can set the IP address of **Trap1** to **Trap4**. When the monitor is controlled with BKM-15R or BVM-A14F5, you can set only the IP address of **Trap1** and **Trap2**. **Cancel:** Cancels the changed or confirmed setting. **Confirm:** Saves the changed or confirmed setting.
			Trap Address Status	Displays the IP address to send the information. When Mode is set to Auto, you can select this item. This item cannot be selected when the monitor is controlled with BKM-15R or BVM-A14F5. When the item is selected, the IP address of **Trap1** to **Trap4** is displayed.
			Reset Mode/Address	Resets the settings to send information manually or automatically and the IP address to the factory setting. This item cannot be selected when the monitor is controlled with BKM-15R or BVM-A14F5. When the item is selected, the following message appears. **Are you sure?** **OK:** To reset the data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button.
			Authentication	Sets whether or not to issue the authentication (**[Disable]** or **Enable**). This item cannot be selected when the monitor is controlled with BKM-15R or BVM-A14F5.
		Community		Sets the community name. This item cannot be selected when the monitor is controlled with BKM-15R or BVM-A14F5. When the item is selected, you can enter the community name (up to 20 characters). **public:** Initially, public is entered automatically. Enter any character after it. **New Name:** Enter a community name.
	Protocol Setting			Sets the required items for communications such as the port number. This item cannot be selected when the monitor is controlled with BKM-15R or BVM-A14F5. For the setting value, consult the network administrator.
		SDCP/SDAP Community		Sets the SDCP/SDAP community name. When the item is selected, you can enter the community name (four characters). **SONY:** SONY is entered as a community name. **New Name:** Enter a new name.
		SDCP Port No		Sets the SDCP port number. Set to **53434** to **53534**. **[53484]**
		SDAP Port No		Sets the SDAP port number. Set to **53812** to **53912**. **[53862]**
		SDAP Broadcast		Sets whether or not to issue the SDAP (**Disable** or **[Enable]**).
		SDAP Broadcast Period		Sets the period (seconds) to issue the SDAP. Set to **05** to **30**. **[30]**
		Reset Protocol Setting		Resets the protocol setting. When the item is selected, the following message appears. **Are you sure?** **OK:** To reset data, press the ENTER (Ent) button. **Cancel:** To cancel, press the MENU button.
Function Key				Assigns the function to the function buttons of the controller. This item cannot be selected when the monitor is controlled with BKM-15R or BVM-A14F5. *For details on the function assignment, see "Assigning a Function to a Function Button" (page 101).*

Menu		Function and operation ([ ]: factory setting)
Function Key	F1 to F16	The following functions are assigned. **Scan Mode:** Changes the scan mode of the picture. **Native Scan:** Displays the picture in native scan mode. **16:9:** Changes the aspect ratio to 16:9, and when set to Off, the aspect ratio changes to 4:3. The aspect ratio of some signals is fixed to 16:9 depending on the signal format. For details, see "Available Signal Systems" on page 112. **H Delay:** The picture moves horizontally and a horizontal sync signal appears. • Brightness of the picture increases automatically, and it makes it easy to check the sync part. • When V DELAY button is set to on in H delay mode, a pulse cross picture is displayed. **V Delay:** The picture moves vertically and a vertical sync signal appears approximately in the center of the screen. • Brightness of the picture increases automatically, and it makes it easy to check the sync part. • When H DELAY button is set to on in V delay mode, a pulse cross picture is displayed. **External Sync:** Sets whether or not to set to the external sync mode when the analog component signal or analog RGB signal is input. When the button is set to on, the signal to be displayed is synchronized with the sync signal input to the EXT SYNC connector (External Sync). When set to off, the signal to be displayed is synchronized with the sync signal included in the signals being monitored (Internal Sync). **Note** When the button is set to off (Internal Sync), a sync signal is added on the Y signal to monitor the analog component signal and on the G signal to monitor the analog RGB signal. **Comb:** The comb filter is turned on. When the button is set to off, the trap·band-pass filter is selected. When the displayed signal is NTSC, PAL or PAL-M, this functions. You can select the kind of the comb filter in the NTSC Comb Filter menu (page 62) of the Auxiliary Setting menu. **Char Off:** The characters on the monitor screen hide during manual adjustment. **Color Temp:** You can access directly the Manual Adjust menu of the Color Temp Adj menu. **Status:** Various status information regarding the monitor are displayed on a single page. *For details on the display, see "Displaying the Monitor Status Page" (page 99).* **Note** Use the controller with software version 1.6 or higher to assign Status to a function button of the controller. **Aperture:** When the function is set to on, the frequency response can be modified. The degree of modification is set in the Aperture Value menu (page 62) of the Auxiliary Setting menu. *For information about the aperture modification frequency for each signal system, see "Aperture Modification Frequency" on page 119.* **Mono:** When the button is set to on, a monochrome picture is displayed. When the button is set to off, the monitor switches automatically between color and monochrome mode, depending on the color discrimination of the input adaptor. **Blue Only:** Red and green signals are cut, and only the blue signal is displayed as a monochrome picture. It makes it easy to adjust chroma and phase, and to check VTR noise. **R Off:** R (red) signals are cut respectively. **G Off:** G (green) signals are cut respectively. **B Off:** B (blue) signals are cut respectively. **Chroma Up:** The chroma setting increases by 12 dB. **Interlace:** Displays in the interlace mode. **Pixel Zoom:** The part of the picture is magnified up to 8 times. **Capture Load:** Displays the menu to load the captured picture from the "Memory Stick". **Marker:** All markers are displayed on the screen. **Aspect Marker:** An aspect marker is displayed on the screen.

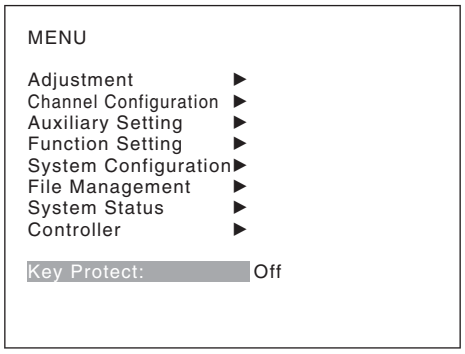
Menu		Function and operation ([ ]: factory setting)
Function Key		**Area Marker1:** An area marker 1 is displayed on the screen. **Area Marker2:** An area marker 2 is displayed on the screen. **Center Marker:** The center marker is displayed on the screen. **Aspect Marker-Line:** The line of the aspect marker is displayed on the screen. **Aspect Blanking-Half:** Aspect Blanking is set to half blanking. **Aspect Blanking-Black:** The blanking level of Aspect Blanking is set to 0% black level. **Note** Use the controller with software version 1.6 or higher to assign Center Marker, Aspect Marker-Line, Aspect Blanking-Half or Aspect Blanking-Black to a function button of the controller. **Side by Side:** The screen is displayed in the side by side display mode. **Wipe:** The screen is displayed in the wipe display mode. **Butterfly:** The screen is displayed in the butterfly display mode. **Blending:** The screen is displayed in the blending display mode. **Error Notify Clear:** Clears the notification detected in the gamut error detection. (OSD Notification) **Note** Wipe, Butterfly, Blending, and Error Notify Clear can be assigned to the controller. However, the display mode using these functions cannot be supported on BVM-F series monitors. **Audio Level Meter:** The audio level meter is displayed. **ALM Hold Reset:** The peak hold of the audio level meter is canceled. **Time Code:** The time code is displayed. **Note** Use the controller with software version 1.4 or higher to assign Audio Level Meter, ALM Hold Reset or Time Code to a function button of the controller. **Difference:** The difference between the luminance of the left 3D video signal and that of the right signal is displayed. **Note** Use the controller with software version 1.6 or higher to assign Difference to a function button of the controller. **Checkerboard:** The left and right 3D video signals are displayed in a checkerboard pattern. **L/R Switch:** The left and right 3D video signals are displayed alternately by switching. **Note** Use the controller with software version 1.5 or higher to assign Checkerboard or L/R Switch to a function button of the controller. **Horopter Check:** The left and right 3D video signals are displayed in the mode selected in Horopter Check (page 66) in the 3D Setting menu of the Function Setting menu. **Flip H**: The 3D video signals are inverted horizontally and displayed. **Note** Use the controller with software version 1.6 or higher to assign Horopter Check or Flip H to a function button of the controller. **Black Frame Insertion:** The signal is displayed in black frame insertion mode (only for BVM-L and PVM-L series). **Black Detail Mode:** The signal is displayed in black detail mode (only for BVM-L and PVM-L series). **Note** Use the controller with software version 1.3 or higher to assign Black Detail Mode to a function button of the controller. **Degauss:** The CRT is degaussed (only for BVM-A series).
Monitor ID Display		Sets display mode of the display window. **[On]:** Always displayed. **Auto:** Displayed during operating by the remote connection and disappears automatically after operation. **Off:** Not displayed.

Menu		Function and operation ([ ]: factory setting)
Controller Upgrade		Upgrades the controller. When the item is selected, the screen for inputting the password is displayed. After the 4-digit password is entered, the current versions of Software Version and Kernel Version are displayed. *For the password, see Password (page 75) of the System Configuration menu.* *For details on upgrading the controller, see "Upgrading the Monitor and Controller" on page 102.*
	Software Upgrade	Upgrades the software for the controller.
	Kernel Upgrade	Upgrades the kernel of the controller.

Key Protect Menu

Overview

This menu is used to lock the data so that the setting is not changed by an unauthorized user.



Menu Function and Operation

Menu	Function and operation ([ ]: factory setting)
Key Protect	Sets the key protection. **On:** The button on the controller (except the menu operation buttons and monitor selection buttons) and the parallel remote do not function and other settings are not changeable. **[Off]:** Release the lock.

Operations

Chapter 4

Selecting Display Mode

This monitor applies high-contrast to the picture and reproduces accurate color by displaying the interlace signal in progressive mode by the I/P conversion or the PsF·progressive signal in progressive mode without the I/P conversion.
You can select interlace display mode according to the input signal or the object to evaluate the picture.

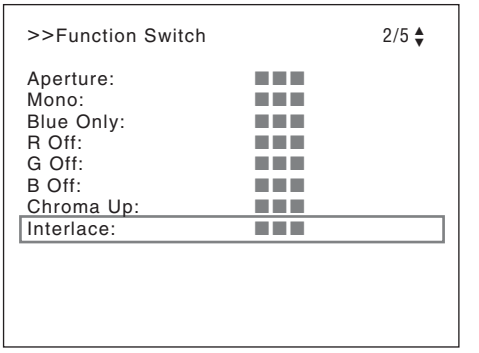
Interlace display mode: The picture is displayed in interlace mode without I/P conversion processing. The picture near the original quality of the input signal is monitored.

Notes

- When a 1080/24[1)] P (PsF) or 1080/25P (PsF) input signal is displayed in progressive mode, the frame rate for display is 72[1)] Hz or 75 Hz to obtain flickerless display.
- When the input signal is 1080/24[1)] PsF or 1080/25PsF and 1080I is set in the 1080I/PsF menu of the Channel Configuration menu, the frame rate for display is 48[1)] Hz or 50 Hz.
- The luminance is reduced owing to the principle of operation in the interlace display mode. However, on this monitor the normal luminance is set by increasing the value of gain. For this reason, in the interlace display mode, the range of the contrast adjustment is different from the normal level, and the luminance may be reduced according to the setting of the contrast.
- The picture is not displayed in interlace mode in the following cases:
  – When Side by Side is set to On
  – When Pixel Zoom is set to on

1 For selecting the interlace display mode, set Native Scan (page 67) to On in the Function Setting menu or by pressing the NATIVE SCAN button of the controller.

2 Set Interlace to On in the Function Switch menu (page 67) of the Function Setting menu, or pressing the Interlace button[2)] on the controller.



For the input signal to display in frame mode and interlace mode, see "Picture Frame Display" on page 122.

1) Also compatible with a frame rate of 1/1.001.
2) Interlace is assigned to a function button of the controller in the Function Key menu (page 83) of the Controller menu.

Setting the Display of Native Scan Mode

About the native scan mode

You can set the picture display type for the native scan mode according to the input signal.
You can select ×1 or ×2, which differ in picture display size, to map the pixels of the signal to the panel in one-to-one mode, or Aspect Correction. An SD signal of non-square pixels (the number of H pixels of the signal system is 720 or 1440) or a 640 × 480 SD signal of HDMI/DisplayPort video is displayed correctly by scaling processing of doubling for the V direction and correct aspect ratio for the H direction, and the picture is also optimized and displayed by modifying the aperture coefficient value, filter coefficient value, etc. in Aspect Correction mode.

For details, see "Picture Display Size" on page 120.

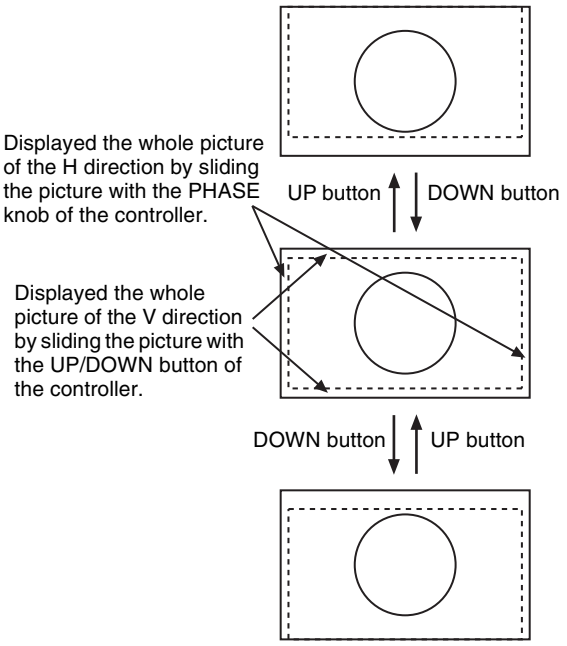
Set the native scan mode in the Native Scan Mode menu (page 62) of the Auxiliary Setting menu.

Note

The native scan is not selectable in the following cases:
- When the input signal has no sync signal
- When Side by Side is set to On
- When Pixel Zoom is set to on
- When the HDMI/DisplayPort computer signal is input (The native scan is displayed regardless of the setting.)
- When the signal system is the SD signal of 720 × 576 or 1440 × 576, Native Scan Mode is set to Aspect Correction or ×2 and the internal signal displayed (Native Scan is set to Off and the normal scan is displayed regardless of the setting.)

Display of the input signal system 576/50i or 576/50P

When the input signal system is the SD signal of 720 × 576 or 1440 × 576 and Native Scan Mode is set to ×2 or Aspect Correction, you can display no display area of the upper and lower sides over the V size (1080) by sliding the picture with the UP/DOWN button of the controller.
And when the input signal is same as above and Native Scan Mode is set to Aspect Correction and the aspect ratio is 16:9, you can display no display area of the left and right sides over the H size (1920) by sliding the picture with the PHASE knob of the controller. You can restore the display position to the center by pressing the MANUAL button of PHASE of the controller.


Displayed the whole picture of the H direction by sliding the picture with the PHASE knob of the controller.
UP button
DOWN button
Displayed the whole picture of the V direction by sliding the picture with the UP/DOWN button of the controller.
DOWN button
UP button

Note

The set position is held even when the system is changed to another input signal system.

Selecting the Native Scan/Scan Mode

You can select scan mode from a native scan, under scan (–3%), normal scan (0%) and over scan (mask of 5% over scan portion in the normal scan picture).
You can set scan mode with the NATIVE SCAN button or SCAN button of the controller, or in the Function Switch menu of the Function Setting menu.

Setting with the NATIVE SCAN button or SCAN button of the controller

To set to the native scan mode

Set the NATIVE SCAN button to on. (The LED on the button lights.)

To select the scan mode

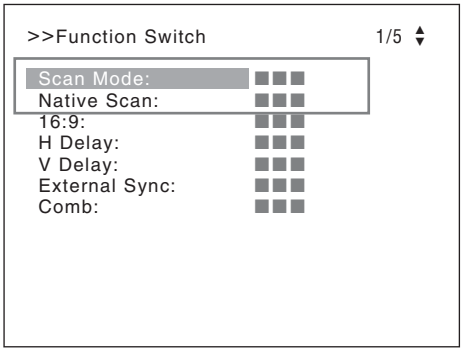
1 Set the NATIVE SCAN button to off. (The LED on the button is turned off.)

2 Press the SCAN button to select the scan mode.

Scan mode is changed to normal, under and over scan mode by each press of the button.

Setting in the menu

Set Scan Mode or Native Scan in the Function Switch menu (page 67) of the Function Setting menu.



To set to the native scan mode

Set Native Scan to On.

To select the scan mode

1 Set Native Scan to Off.

2 Select Scan Mode, then select scan mode from the following.

Normal Scan: Normal mode
Under Scan: Under mode
Over Scan: Over mode

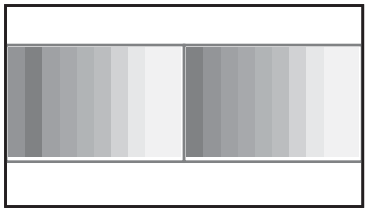
Note

The scan mode is not selectable in the following cases:
- When Native Scan is set to On
- When the internal signal is displayed
- When Side by Side is set to On

Displaying Two Signals on One Screen (Picture&Picture)

Two input signals are output on the monitor. Side by Side mode is useful for adjusting the color or comparing two pictures.
You can input the file loaded in the Capture menu (page 66) of the Function Setting menu.

Side by Side (side by side)



Two pictures are displayed side by side.

Signal A Signal B

Notes

- The input signals from INPUT 1 and INPUT 2 of one standard SDI input or one input adaptor are not displayed in the multi display.
- You cannot select the same channel number as channels for signal A and signal B. And set a different channel number of the different standard input or input adaptor for signal A and signal B.
- When signal A and signal B are not the same signal format and signal system, the pictures may not be displayed correctly.
- The input of signal A is not changed in the multi display.
- The internal signal is not displayed in the multi display.
- The captured picture data is not used to display as signal A and signal B at the same time.
- The signals are not displayed in the multi display mode when Pixel Zoom is set to on.
- The color space and gamma setting for signal A is applied in the multi display.
- The multi display with an HDMI input signal and a DisplayPort input signal is not possible.

Procedure

1 Select the channel number and set the input signal to display as signal A.

2 Select the Side by Side mode with the function button[1] of the controller or in the Function Switch menu (page 67) of the Function Setting menu and set it to On.

1) Each function of Picture&Picture is assigned to each function button of the controller in the Function Key menu (page 83) of the Controller menu.

3 Select the channel number and set the input signal to display as signal B.

The channel for signal B is set to CH01 at the factory setting.

To display the captured picture data file

You can use a captured picture other than the picture selected by designating the channel number as signal A and signal B.
Instead of setting the channel number in step**1** or step**3**, press the Capture Load button[2] or select Load in the Capture menu (page 66) of the Function Setting menu.

2) Capture Load is assigned to the controller in the Function Key menu (page 83) of the Controller menu.

To end the multi display

Set Side by Side to Off in Function Switch menu (page 67) of the Function Setting menu, or set the function button of the controller to off.

Magnifying the Picture (Pixel Zoom)

As part of the picture is magnified up to 8 times (up to 4 times when the display magnification of the native scan is ×2) without scaling processing, this is convenient for confirming a minute of the signal.
This functions in native scan mode.

Note

Pixel Zoom is not set to on in the following cases:
- When the menu, monitor status page, or list of the functions assigned to the function buttons is displayed
- When Side by Side is set to On
- When the internal signal is displayed
- When the input signal has no sync signal

1 Set Native Scan to On by pressing the NATIVE SCAN button of the controller or in the Function Switch menu (page 67) of the Function Setting menu.

2 Display the picture and set Pixel Zoom to on by pressing the Pixel Zoom button[1)] of the controller.

The cursor is displayed.

Note

When Native Scan Mode is set to Aspect Correction and Pixel Zoom is set to on for SD signal input, Native Scan Mode is set to ×2.

To cancel the cursor display and return to the previous screen

Press the MENU button of the controller.

1) Pixel Zoom is assigned to a function button of the controller in the Function Key menu (page 83) of the Controller menu.

3 Select the cursor size with the UP or DOWN button of the controller.

You can select the cursor size from 1 to 8 (from 1 to 4 when the display magnification of the native scan is ×2 (page 62)).
The larger the number, the smaller the cursor.

4 Adjust the position of the cursor.

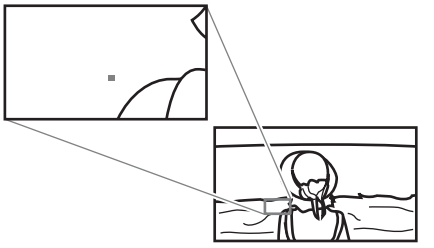
To move the leftward or rightward: Turn the PHASE knob.
To move the upward or downward: Turn the CHROMA knob.

5 Press the ENTER (Ent) button.

Part inside the cursor is magnified.
You can move the position of the magnified picture with the PHASE knob or CHROMA knob. You can change the magnification ratio with the UP or DOWN button.
You can also change the boundary line color.

For details on changing the boundary line color, see "Pixel Zoom Setting" (page 66) of the Function Setting menu.

Press the MENU button of the controller to return to the cursor display.



To end the pixel zoom operation

When the cursor is displayed or the picture is magnified, press the Pixel Zoom button of the controller.

Capturing the Picture of the HD Signal (HD Frame Capture)

The frame picture of the 3G/HD-SDI input signal is captured and saved as a picture file in the “Memory Stick”. This is used to confirm the color tone and picture angle of the current scene and recorded scene, or as the reference picture to adjust the monitor.
To save the captured frame, we recommend using “Memory Stick PRO (High-Speed)” or “Memory Stick PRO Duo (High-Speed)”.

Notes

- Use the controller with software version 1.6 or higher to use the HD Frame Capture function.
- The file is saved in TIFF. The file size is a maximum of 13 MB.
- The picture file is captured or loaded without deterioration.
- The saved file may not be opened due to the PC application used.
- The HD Frame Capture function is effective only for the 3G/HD-SDI signal.
- The interlace input signal is captured in each frame (first field (F=0) and second field (F=1)).
- The frame is not captured in the following cases:
  - When Side by Side is set to On
  - When Pixel Zoom is set to on
  - When the internal signal is displayed
  - When the input signal has no sync signal
  - When the captured frame is displayed
- The HD Frame Capture function is not available on BKM-15R and BVM-A14F5.

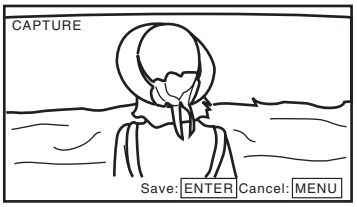
To capture

1 Insert the “Memory Stick” into the Memory Stick insertion slot of the controller.

For details on the “Memory Stick”, see “Inserting/Ejecting the “Memory Stick”” on page 132.

2 Display the picture and press the CAPTURE button of the controller at the point on the picture to be captured.

The captured still picture appears on the display.



To hide characters on the monitor, set the CHAR OFF button to on. As the characters are hidden, it becomes easy to confirm the still picture. To display the characters, set the CHAR OFF button to off.

3 Press the ENTER (Ent) button.

The display of the captured still picture is cleared and saving in the “Memory Stick” of the captured frame starts.
The “In progress ■” is displayed and “■” flashes during data saving. (It may take some time to write the data.)
The file of the captured frame is automatically named and the file name is displayed on the screen during file saving.

Note

The monitor is not operated until the saving is completed.

To load the captured frame

Press the Capture Load button[1)] of the controller or select Load in the Capture menu (page 66) of the Function Setting menu, and then the file name.
To cancel the captured frame display, select any one of channel numbers 1 to 30.

1) Capture Load is assigned to a function button of the controller in the Function Key menu (page 83) of the Controller menu.

Displaying the Area Marker or Aspect Marker

The monitor is equipped with two area markers and center marker as the safe area marker and aspect marker for confirming the picture angle.

1 Input the signal.

2 Select the channel.

3 Set the marker preset data (Marker1 to Marker5) to display in the Marker Preset menu (page 60) of the Channel Configuration menu.

4 Set the marker to display in the Marker Setting menu (page 63) of the Function Setting menu for the preset data set in step **3**.

5 Select the marker mode (Marker, Aspect Marker, Area Marker 1, Area Marker 2, Center Marker, Aspect Marker-Line, Aspect Blanking-Half or Aspect Blanking-Black) with the function button[1)] of the controller or in the Function Switch menu (page 67) of the Function Setting menu and set it to On.

1) Each function of the marker is assigned to the function button of the controller in the Function Key menu (page 83) of the Controller menu.

When the MARKER button is set to on
All the markers that are set to On in the Marker Setting menu of the Function Setting menu are displayed.
The MARKER button lights.

To display the aspect marker
Set the button of the marker mode that you wish to display (Aspect Marker, Aspect Marker-Line, Aspect Blanking-Half or Aspect Blanking-Black) to on.
The MARKER, Aspect Marker and the pressed button light.

To display the area marker 1, area maker 2 or center marker
Set the button of the maker that you wish to display (Area Marker 1, Area Marker 2 or Center Marker) to on.
The MARKER and the pressed button light.

To cancel the marker display
Set the MARKER button to off.

Note

Use the controller with software version 1.6 or higher to assign Center Marker, Aspect Marker-Line, Aspect Blanking-Half or Aspect Blanking-Black to a function button of the controller.

Displaying the Audio Level Meter

The audio level of the embedded audio signals superimposed on the SDI signals is displayed by installing the optional input adaptor (BKM-250TG).

Note

As the audio level meter is superimposed on the video signal, the audio level meter may be invisible partially because of the scan mode setting of the monitor.

1 Input the SDI signal.

2 Select the channel.

3 Set the audio level meter in the Audio Level Meter menu (page 75) of the On Screen Set menu of the System Configuration menu.

To set the audio channel
Set in the Audio CH menu.
CH1-CH8: Selects when the channel 1 to 8 is selected.
CH9-CH16: Selects when the channel 9 to 16 is selected.

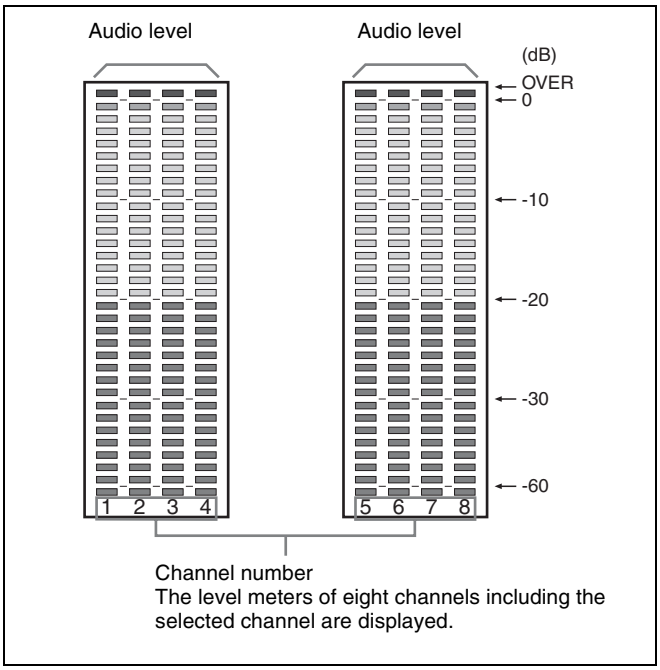
To set the display position
Set in the Position menu.
Bottom: Displays at the bottom of the window.
Top: Displays at the top of the window.

To set the transparency of the background
Set in the Transparency menu.
Black: Sets the background in black.
Half: Sets the background in translucence.

To set the peak hold
Set in the Peak Hold menu.
Off: The peak hold does not function.
Auto: The peak hold is automatically canceled after about 1 second.
Manual Reset: The peak hold is canceled manually. To cancel the peak hold, select ALM Hold Reset (page 70) in the Function Switch menu of the Function Setting menu or set ALM Hold Reset to on by pressing the ALM Hold Reset button[1)] of the controller.

4 Set Audio Level Meter (page 70) to On in the Function Switch menu of the Function Setting menu or by pressing the Audio Level Meter button[1)] of the controller.

The audio level meter is displayed.



1) Audio Level Meter and ALM Hold Reset are assigned to the function buttons of the controller in the Function Key menu (page 83) of the Controller menu.

To cancel the display of the audio level meter

Set Audio Level Meter (page 70) to Off in the Function Switch menu of the Function Setting menu or by pressing the Audio Level Meter button of the controller.

Note

Use the controller with software version 1.4 or higher to assign Audio Level Meter or ALM Hold Reset function to a function button of the controller.

Displaying the Time Code

The time code superimposed on the SDI signals is displayed.

Note

As the time code is superimposed on the video signal, the time code may be invisible partially because of the scan mode setting of the monitor.

1 Input the SDI signal.

2 Select the channel.

3 Set the time code in the Time Code menu (page 75) of the On Screen Set menu of the System Configuration menu.

To set the type of the time code
Set in the VITC/LTC menu.
VITC: Sets to VITC.
LTC: Sets to LTC.

To set the display position for the time code
Set in the Position menu.
Top Left: To display it at top left on the screen
Top Center: To display at top center on the screen
Top Right: To display at top right on the screen
Bottom Left: To display at bottom left on the screen
Bottom Center: To display at bottom center on the screen
Bottom Right: To display at bottom right on the screen

To set the luminance of the time code
Set in the Level menu.
High: To make the time code display bright
Low: To make the time code display dark

4 Set Time Code (page 70) to On in the Function Switch menu of the Function Setting menu or by pressing the Time Code button[1)] of the controller.

The time code is displayed.

1) Time Code is assigned to a function button of the controller in the Function Key menu (page 83) of the Controller menu.

To cancel the time code display

Set Time Code (page 70) to Off in the Function Switch menu of the Function Setting menu or by pressing the Time Code button of the controller.

Note

Use the controller with software version 1.4 or higher to assign Time Code function to a function button of the controller.

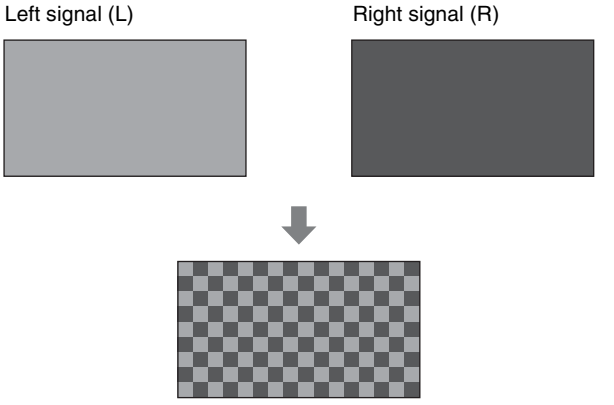
Switching the Display of the 3D Video Signal

When the optional BKM-250TG input adaptor is installed, the left (L) and right (R) 3D video signals in dual-stream HD-SDI format can be compared on the screen (3D signal analyzing function).
For this function, two-dimensional (2D) view is used. The signals are not displayed in stereoscopic view.
The following five display modes are available:

For details on the input adaptor (BKM-250TG), see "Input Adaptors" on page 22.

Difference display
The difference between the luminance signal of the left (L) signal and that of the right (R) signal is displayed.
A gray portion indicates that the luminance level of the two signals is the same. When the luminance level of the two signals is not the same, a monochrome image is displayed according to the difference in the luminance. This function is useful for checking the amount of parallax.

Checkerboard display



Checkerboard display

The left (L) and right (R) signals are displayed in a checkerboard pattern on the same screen for comparing the brightness or colors of the L and R signals.

L/R Switch display
The left (L) and right (R) signals are switched alternately on the screen for comparing the brightness or colors of the L and R signals.

Horopter Check display
The display mode for the left (L) and right (R) 3D video signals can be switched for easy checking of the two signals. Set Horopter Check (page 66) in the 3D Setting menu of the Function Setting menu to one of the display

modes listed below. Set Right for the right signal, and Left for the left signal.

Normal: Normal picture
Black: Displays a black signal only (the video signal is not displayed).
Mono: Displays the video signal in monochrome mode.
Red: Displays only the red component of the video signal.
Blue: Displays only the blue component of the video signal.

Flip H display
The input 3D video signals whose left (L) or right (R) signal has been inverted horizontally by a half-mirror type 3D rig are displayed as non-inverted images.

Procedure

1 Input 3D video signals.

2 Set the desired display mode of the 3D signal analyzing function (Difference, Checkerboard, L/R Switch, Horopter Check or Flip H) to On by pressing the function button[1)] of the controller or in the Function Switch menu (page 67) of the Function Setting menu.

If the desired display mode of the 3D signal analyzing function has been assigned to a pin of the PARALLEL REMOTE connector, set Parallel Remote (page 73) in the System Configuration menu to On.

1) Difference, Checkerboard, L/R Switch, Horopter Check or Flip H is assigned to a function button of the controller in the Function Key menu (page 83) of the Controller menu.

To stop execution of the 3D signal analyzing function

Set Difference, Checkerboard, L/R Switch, Horopter Check or Flip H to Off in the Function Switch menu (page 67) of the Function Setting menu. Or set the corresponding function button of the controller to off.
The Difference, Checkerboard, L/R Switch or Horopter Check display is returned to the normal display and the currently selected left or right signal is displayed.
The Flip H display is returned to the normal display without inversion.

Notes

- To use the 3D signal analyzing function, use an optional BKM-250TG input adaptor.
  The available display modes of the 3D signal analyzing function differ depending on the serial number of the BKM-250TG as follows:
  With serial number 7100001 or higher:
  – Checkerboard
  – L/R Switch
  – Horopter Check
  – Flip H
  With serial number 7300001 or higher:
  – Difference
  – Four other display modes
- To assign Checkerboard or L/R Switch to a function button of the controller, use the controller with software version 1.5 or higher. To assign Difference, Horopter Check or Flip H to a function button of the controller, use the controller with software version 1.6 or higher
- If you change the channel when the 3D signal analyzing function is On, it is switched to Off.
- If you display the Picture&Picture image when the 3D signal analyzing function is On, it is switched to Off.
- If the input signal system is changed when the 3D signal analyzing function is On, the 3D video image may not be displayed correctly.
- The 3D signal analyzing function cannot be set to On in the following cases:
  – When the option port number in which the BKM-250TG is installed is not selected in Input Port of the Channel Configuration menu
  – When dual-link display is used
  – When the internal signal is displayed
  – When a captured frame is displayed
  – When Side by Side is set to On
- The display of the 3D signal analyzing function may not be performed correctly when H Delay is set to On.
- If saving is performed in HD Frame Capture when a 3D signal analyzing function other than Flip H is in use, the function is deactivated and the normal display is restored.

Copying the Setting or Adjustment Value to Another Monitor

You can save the setting or adjustment value in the "Memory Stick" and copy it to another monitor.

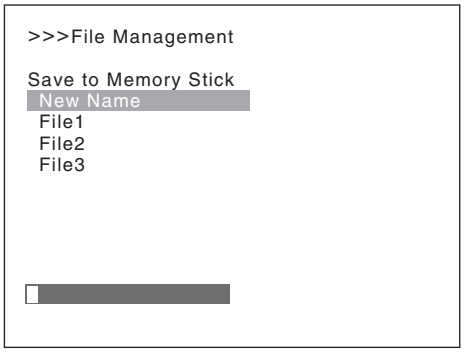
1 Insert the "Memory Stick" into the Memory Stick insertion slot of the controller.

For details on the "Memory Stick", see "Inserting/Ejecting the "Memory Stick"" on page 132.

2 Select Memory Stick in the Save To menu (page 78) of the File Management menu, and then select New Name or the existing file name.

When you select New Name, the display to create a new name appears.

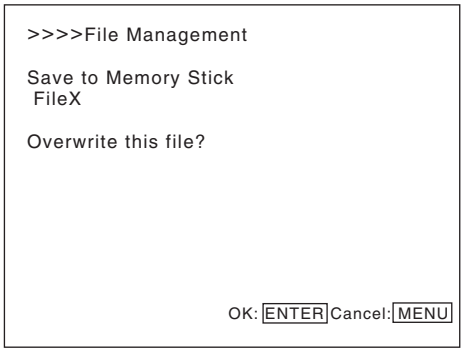
Display example



Enter a new name (1 to 20 characters).

When the existing file name is selected, the display to confirm a file name appears.

Display example



3 Press the ENTER (Ent) button.

The data is saved in the "Memory Stick".

Notes

- Use the controller with software version 1.6 or higher for data saving, copying and deleting using the "Memory Stick".
- Data saving, copying and deleting using the "Memory Stick" is not available on BKM-15R or BVM-A14F5.
- Data copying from the BVM-A, PVM-L or BVM-L series monitor is not available.

Displaying the Monitor Status Page

When Status has been assigned to a function button of the controller, the setting status, display mode and input signal information of the currently displayed video signal are displayed on the monitor status pages.

For how to assign a function to a function button, see "Assigning a Function to a Function Button" (page 101).

Notes

- To assign Status to a function button of the controller, use the controller with software version 1.6 or higher.
- Pixel Zoom is not set to on when the monitor status page is displayed.

1 Press the Status button on the controller to set it to On.

Page 1/3 of STATUS display is displayed.

2 Select the STATUS page you wish to view using the UP/DOWN button on the controller.

You can select the page from among 1/3, 2/3 and 3/3.

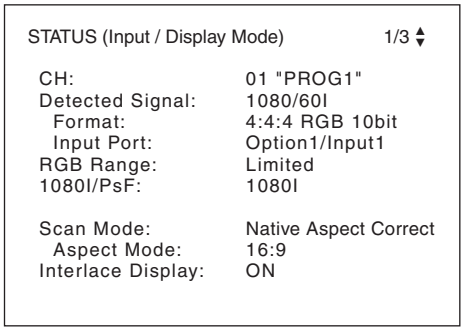
For the contents of each page, see below.

To cancel the display of the STATUS page

Press the Status button on the controller again.

Page 1/3

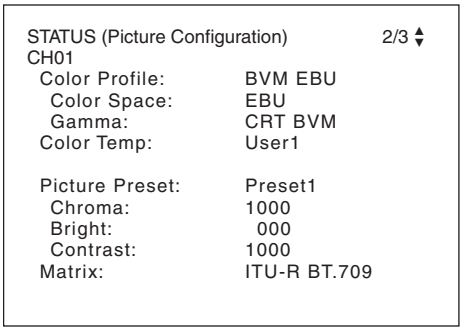
Information on the setting status of the input signal and the display mode is displayed.



CH: Displays the currently selected channel number and channel name.
Detected Signal: Displays the signal system whose format is detected.
Format: Displays Format set in the Channel Configuration menu.
Input Port: Displays Input Port and Input No. set in the Channel Configuration menu.
RGB Range: Displays RGB Range set in the Channel Configuration menu.
1080I/PsF: Displays 1080I/PsF set in the Channel Configuration menu.
Scan Mode: Displays the selected scan mode.
Aspect Mode: Displays the selected aspect ratio.
Interlace Display: Displays On/Off of the interlace display.

Page 2/3

Information on the picture adjustments is displayed.



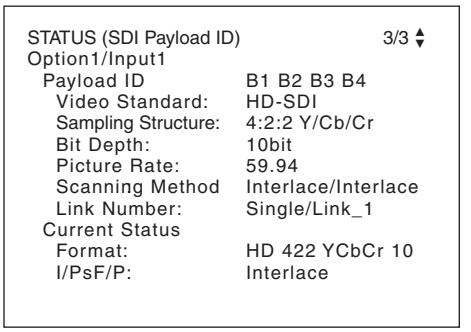
Color Profile: Displays Color Profile set in the Channel Configuration menu.
Color Space: Displays Color Space set in Color Profile
Gamma: Displays Gamma set in Color Profile
Color Temp: Displays Color Temp set in the Channel Configuration menu.

Picture Preset: Displays Picture Preset set in the Channel Configuration menu.
Chroma: Displays the Chroma value of the selected Picture Preset.
Bright: Displays the Bright value of the selected Picture Preset.
Contrast: Displays the Contrast value of the selected Picture Preset.
Matrix: Displays Matrix set in the Channel Configuration menu.

Page 3/3

When the SDI signal is input

The same information as that of SDI Payload ID Status in the System Status menu is displayed.



OptionX/InputX: Input port and input connector of the displayed information
Standard or Option1 to 4 is displayed as an input port, and Input1 or Input2 is displayed as an input connector.
Payload ID: Displays the 4-byte data for Payload ID of the SMPTE-352M standard in hexadecimal in sequence of Byte 1, Byte 2, Byte 3 and Byte 4.
When the Payload ID information is not set, only Current Status is displayed, and "---" is displayed for other items.
When the following information is not decoded, Unknown is displayed.

Video Standard: Decode display of Byte 1_Bit 6-0
Sampling Structure: Decode display of Byte 3_Bit 3-0
Bit Depth: Decode display of Byte 4_Bit 1-0
Picture Rate: Decode display of Byte 2_Bit 3-0
Scanning Method: Decode display of Byte 2_Bit 7 / Byte 2_Bit 6
Link Number: Decode display of Byte 4_Bit 7-6

Current Status: Displays the current status of the monitor.

Format: Displayed as "Video Standard + Sampling Structure + Bit Depth".

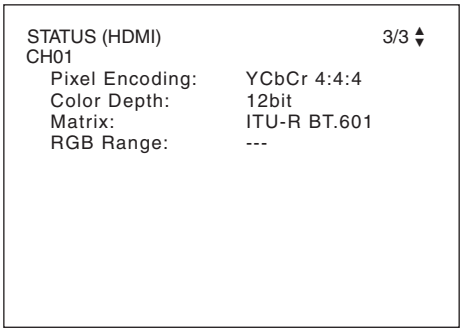
Video Standard: 3G / DL / HD / SD
Sampling Structure: 422 YCbCr / 444 YCbCr / 444 RGB
Bit Depth: 10 / 12

I/PsF/P: Interlace / PsF / Progressive

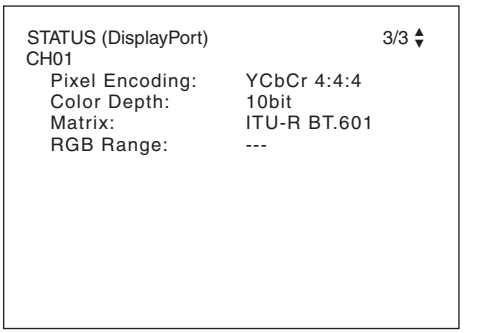
When the HDMI/DisplayPort signal is input

The same information as that of HDMI/DP Status in the System Status menu is displayed.

HDMI signal



DisplayPort signal



Pixel Encoding: RGB 4:4:4 / YCbCr 4:4:4 / YCbCr 4:2:2
Color Depth: 8bit / 10bit / 12bit (HDMI signal), or 6bit/8bit/10bit/12bit (DisplayPort signal)
Matrix[1]: ITU-R BT.601 / ITU-R BT.709
RGB Range[2]: Limit / Full

1) It is displayed when HDMI/DisplayPort Auto is set to On in the Matrix menu of the Channel Configuration menu.
2) It is displayed when HDMI/DisplayPort Auto is set to On in the RGB Range menu of the Channel Configuration menu.

Assigning a Function to a Function Button

You can assign a function other than the factory preset on the function button of the controller. The functions assigned to the function buttons can be displayed collectively.

Assigning a Function to a Function Button

1 Select the Function Key menu in the Controller menu.

2 Select F1 to F16 button, and then the function assigned on each button.

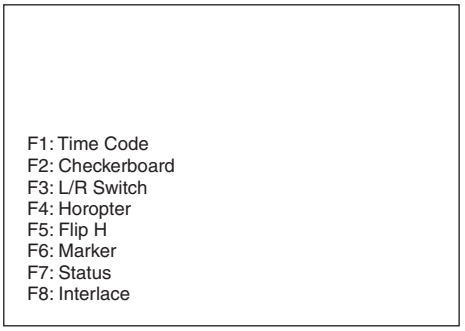
Assignable functions

Scan Mode, Native Scan, 16:9, H Delay, V Delay, External Sync, Comb, Char Off, Color Temp, Status, Aperture, Mono, Blue Only, R Off, G Off, B Off, Chroma Up, Interlace, Pixel Zoom, Capture Load, Marker, Aspect Marker, Area Marker 1, Area Marker 2, Center Marker, Aspect Marker-Line, Aspect Blanking-Half, Aspect Blanking-Black, Side by Side, Wipe, Butterfly, Blending, Error Notify Clear, Audio Level Meter, ALM Hold Reset, Time Code, Difference, Checkerboard, L/R Switch, Horopter Check, Flip H, Black Frame Insertion, Black Detail Mode, Degauss

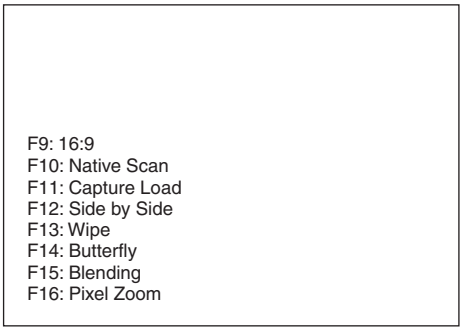
For details on the assigned function, see "Function Key" (page 83) in the Controller menu.

Displaying the Assigned Functions Collectively

When no menu is displayed on the screen, press the ENTER button on the controller. The functions assigned to function buttons F1 to F8 are displayed on the screen.



Press the ENTER button again to display the functions assigned to function buttons F9 to F16.



If you press the ENTER button once again, the collective display will disappear.

The following functions are displayed as an abbreviation.

Aspect Marker-Line:	A-Marker Line
Aspect Blanking-Half:	A-Blank Half
Aspect Blanking-Black:	A-Blank Black
Error Notify Clear:	Error Clear
Black Frame Insertion:	Black Frame
Black Detail Mode:	Black Detail
Audio Level Meter:	ALM
ALM Hold Reset:	ALM Hold Rst
Horopter Check:	Horopter

Notes

- Use the controller with software version 1.7 or higher to display the functions assigned to the function buttons collectively.
- The UP/DOWN buttons and the PHASE knob on the controller are disabled when the list of the functions assigned to the function buttons is displayed.
- Pixel Zoom is not set to on when the list of the functions assigned to the function buttons is displayed.

Upgrading the Monitor and Controller

You can upgrade the monitor and the controller with the data saved in a “Memory Stick”.
You can upgrade the following data:

Monitor: Software program
Kernel
FPGA data
DisplayPort data
Controller: Software program
Kernel

Notes

- Use the controller with software version 1.7 or higher to upgrade the monitor.
- Upgrading of the software for the controller is available for version 1.11 or later of the software for the controller, and upgrading of the controller kernel is available for version 1.2 or later.
- Use a “Memory Stick PRO” for upgrading.
  If a “Memory Stick” other than “Memory Stick PRO” is used, the upgrading may not be executed correctly.
- To initialize the “Memory Stick PRO”, use a machine and application corresponding to “Memory Stick PRO”.
  If Windows Explorer is used for initialization, the upgrading may not be executed correctly.
- When the unit is upgraded, use the AC power supply for the monitor.

To get the upgrade data

Contact your Sony representative.

Saving the Upgrade Data in a “Memory Stick PRO”

Save the upgrade data (MSSONY folder) in a “Memory Stick PRO”.
Save the whole MSSONY folder directly in the root directory of the Memory Stick drive.

To confirm saving the data correctly

Double-click on the file including checksum.bat in the file name.

BVM-F250A

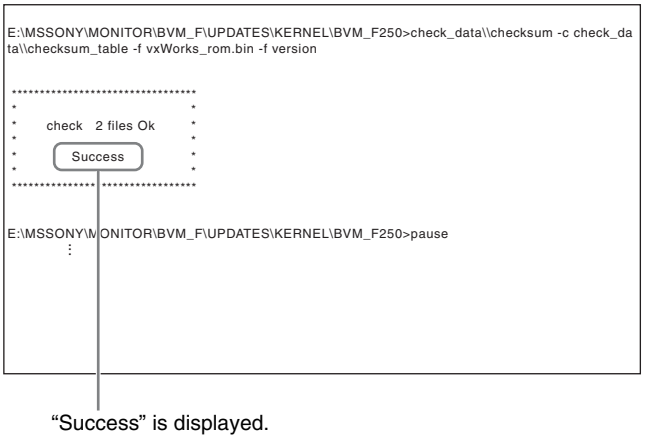
- MSSONY/MONITOR/BVM_F/UPDATES/SOFT/BVM_F250/checksum_soft.bat
- MSSONY/MONITOR/BVM_F/UPDATES/KERNEL/BVM_F250/checksum_kernel.bat
- MSSONY/MONITOR/BVM_F/UPDATES/FPGA/BVM_F250/checksum_fpga.bat
- MSSONY/MONITOR/BVM_E/UPDATES/DP/BVM_F250/checksum_dp.bat
- MSSONY/MONITOR/BVM_L/UPDATES/SOFT/BKM_16R/checksum_soft.bat
- MSSONY/MONITOR/BVM_L/UPDATES/KERNEL/BKM_16R/checksum_kernel.bat

BVM-F170A

- MSSONY/MONITOR/BVM_F/UPDATES/SOFT/BVM_F170/checksum_soft.bat
- MSSONY/MONITOR/BVM_F/UPDATES/KERNEL/BVM_F170/checksum_kernel.bat
- MSSONY/MONITOR/BVM_F/UPDATES/FPGA/BVM_F170/checksum_fpga.bat
- MSSONY/MONITOR/BVM_E/UPDATES/DP/BVM_F170/checksum_dp.bat
- MSSONY/MONITOR/BVM_L/UPDATES/SOFT/BKM_16R/checksum_soft.bat
- MSSONY/MONITOR/BVM_L/UPDATES/KERNEL/BKM_16R/checksum_kernel.bat

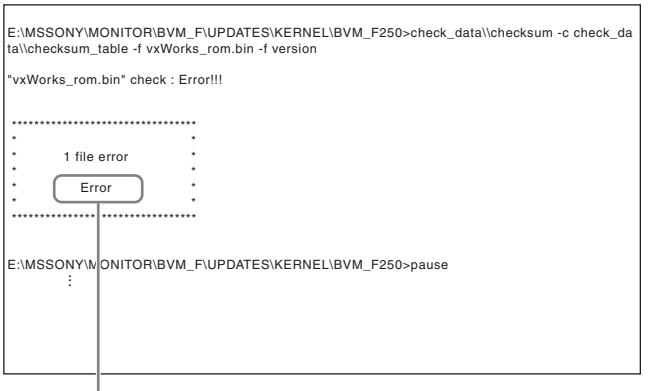
Display example
To confirm the upgrade data of the kernel of the BVM-F250A, double-click:
MSSONY/MONITOR/BVM_F/UPDATES/KERNEL/BVM_F250/checksum_kernel.bat

When the data are saved correctly



“Success” is displayed.

When the data are not saved correctly



“Error” is displayed.

Upgrading the Monitor

1 Insert the "Memory Stick PRO" into the Memory Stick insertion slot of the controller.

2 Select the Monitor Upgrade (page 77) menu in the System Configuration menu.

3 Enter the 4-digit password.

The Monitor Upgrade screen is displayed, and the current version is indicated.

For the password, see Password (page 75) of the System Configuration menu.

4 Select the item to upgrade from among Software Upgrade, Kernel Upgrade, FPGA Upgrade, and DisplayPort Upgrade.

After about 10 seconds, the old and new software versions, kernel version or DisplayPort version, and the message to confirm that you wish to execute the upgrade are displayed.
When FPGA Upgrade is selected, the old and new versions of FPGA1, FPGA2, FPGA CORE, starting from the left, and a confirmation message are displayed.

Display example
Monitor software will be upgraded and monitor will restart.
Are you sure?

5 Confirm the data version and press the ENTER (Ent) button.

Upgrading starts.
The "In progress ■" is displayed and "■" flashes during upgrading. The "■" indication may stop flashing during upgrading, but the data are being upgraded correctly.
Upgrading takes about 8 minutes for the software program, about 2 minutes for the kernel, about 3 minutes for FPGA data, and about 2 minutes for DisplayPort data.

Notes

- Do not remove the "Memory Stick PRO" from the Memory Stick insertion slot during upgrading or disconnect the LAN cable between the monitor and controller.
- Do not turn off the power of the monitor and controller during upgrading.

After completion of upgrading, the display on the screen disappears, and the system is restarted. After restarting, the previous screen is displayed.

6 Select the Monitor Upgrade menu in the System Configuration menu and confirm that the version of the selected item has been upgraded.

When the upgrade sequence does not move forward correctly, the message such as "Procedure failure" is displayed in red. If this error message is displayed, contact your Sony representative.

Upgrading the Controller

1 Insert the "Memory Stick PRO" into the Memory Stick insertion slot of the controller.

2 Select the Controller Upgrade (page 86) menu in the Controller menu.

3 Enter the 4-digit password.

The Controller Upgrade screen is displayed, and the current version is indicated.

For the password, see Password (page 75) of the System Configuration menu.

4 Select the item to upgrade from Software Upgrade or Kernel Upgrade.

After about 10 seconds, the old and new software versions or kernel version, and the message to confirm that you wish to execute the upgrade are displayed.

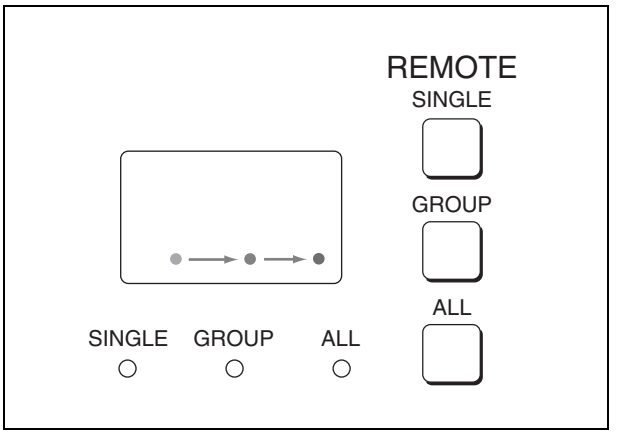
Display example
Controller software will be upgraded and controller will restart.
Are you sure?

5 Confirm the data version and press the ENTER (Ent) button.

Upgrading starts.

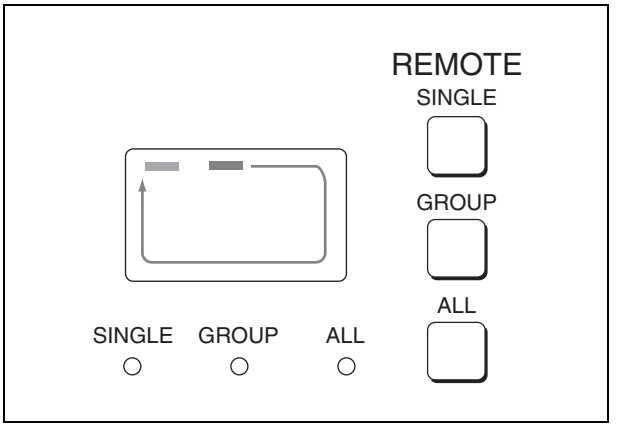
When a version earlier than 1.2 of the software for the controller is upgraded

When upgrading starts, the dot (indicator) lights as moving from left to right in the display window of the controller. The dot may stop during upgrading, but the data are being upgraded correctly.



When version 1.2 or later of the software for the controller is upgraded

When the upgrading starts, the indicator lights as turning clockwise in the display window of the controller. The indicator may stop during upgrading, but the data are being upgraded correctly.
Upgrading takes about 2 minutes for the software program and about 1 minute for the kernel.
After upgrading, all indicators light for about 1 second.



Notes

- Do not remove the “Memory Stick PRO” from the Memory Stick insertion slot during upgrading or disconnect the LAN cable between the monitor and controller.
- Do not turn off the power of the monitor and controller during upgrading.

After completion of upgrading, the system is restarted. The network between the monitor and controller is reconnected, and you can operate the controller.

When the upgrade sequence does not move forward correctly, the error message “Err” is displayed in the display window. If this error message is displayed, contact your Sony representative.

6 Exit the Controller Upgrade menu, select the Controller Upgrade menu again, and confirm that the version of the selected item has been upgraded.

Appendixes

Specifications (BVM-F250A)

Picture performance

Panel OLED panel

Picture size (diagonal)
623.4 mm (24 5/8 inches)

Effective picture size (H × V)
543.4 × 305.6 mm
(21 1/2 × 12 1/8 inches)

Resolution (H × V)
1920 × 1080 pixels (Full HD)

Aspect 16:9

Pixel efficiency 99.99%

Panel drive RGB 10-bit

Panel frame rate 48 Hz, 50 Hz, 60 Hz, 72 Hz, 75 Hz[1)]
See “Picture Frame Display” (page 122).

1) 48 Hz, 60 Hz and 72 Hz are also compatible with a frame rate of 1/1.001.

Viewing angle (Panel specification)
89º/89º/89º/89º (typical)
(up/down/left/right, contrast > 10:1)

Normal scan 0% scan

Native scan Mapping the pixels of the signal to the panel to one-to-one mode, or displaying an SD signal of non-square pixels (the number of H pixels of the signal system is 720 or 1440) or a 640 × 480 SD signal of HDMI/DisplayPort video by scaling processing of doubling for the V direction and correct aspect ratio for the H direction and also optimizing and displaying a picture by modifying the aperture coefficient value, filter coefficient value, etc.

Under scan 3% under scan

Over scan Mask of 5% over scan portion in the normal scan

Color temperature
D65, D93 (Setting possible in other color temperature)

Standard luminance
100 cd/m^2 (Preset1 to Preset5)
(100% white signal input)

Color space (color gamut)
ITU-R BT.709, EBU, SMPTE-C, F250 Native[2)]

2) The BVM-F250A individual chromaticity points. The widest color space setting of the signal reproduced by the BVM-F250A

	x	y
R	0.681	0.319
G	0.189	0.724
B	0.141	0.051

(Typical)

Warm-up time Approx. 30 minutes

Input

SDI BNC (×2)
Input impedance: 75 ohms unbalanced
Signal format
See “Available Signal Systems” (page 112) and “Available Signal Formats” (page 113).
Sampling frequency
3G-SDI:
Y/Cb/Cr (4:2:2)
148.5MHz/74.25MHz/74.25MHz
Y/Cb/Cr (4:4:4)
148.5MHz/148.5MHz/148.5MHz
G/B/R (4:4:4)
148.5MHz/148.5MHz/148.5MHz
HD-SDI:
Y/Cb/Cr (4:2:2)
74.25MHz/37.125MHz/37.125MHz
SD-SDI:
Y/Cb/Cr (4:2:2)
13.5MHz/6.75MHz/6.75MHz
Quantization
3G-SDI: 10 bit/sample, 12 bit/sample
HD-SDI: 10 bit/sample
SD-SDI: 10 bit/sample

HDMI HDMI (×1)
HDCP correspondence, Deep Color correspondence
Signal format
See “HDMI/DisplayPort” (page 118) of “Available Signal Formats”.

DisplayPort DisplayPort connector (×1)
HDCP correspondence, 18/24/30bpp (bits per pixel) correspondence
Signal format
See “HDMI/DisplayPort” (page 118) of “Available Signal Formats”.

Option port Four (4) ports
Signal format
See “Available Signal Systems” (page 112) and “Available Signal Formats” (page 113).

Parallel remote D-sub 9-pin (female) (×1)

Serial remote (LAN)
Ethernet (10BASE-T/100BASE-TX), RJ-45 (×1)

Output

SDI BNC (×1) (monitor output)
Output signal amplitude: 800 mVp-p±10%
Output impedance: 75 ohms unbalanced
Transmission distance
3G-SDI: 70 m max.[3)]
HD-SDI: 100 m max.[3)]
SD-SDI: 200 m max.[4)]

Note

The signal from the monitor output connector does not satisfy the ON-LINE signal specifications.

3) When using the 5C-FB coaxial cable made by Fujikura Ltd. or equivalent

4) When using the 5C-2V coaxial cable made by Fujikura Ltd. or equivalent

DC 5V OUT Circle 4-pin (female) (×1)

General

Power requirements
100 V to 240 V AC,
1.6 A to 0.8 A, 50/60 Hz

Power consumption
Approx. 145 W (max.)
Approx. 72 W (average power consumption in the default status)

Inrush current (1) Maximum possible inrush current at initial switch-on (Voltage changes caused by manual switching):
53 A peak, 17 A r.m.s. (240V AC)
(2) Inrush current after a mains interruption of five seconds (Voltage changes caused at zero-crossing):
39 A peak, 6 A r.m.s. (240V AC)

Operating temperature
0 °C to 35 °C (32 °F to 95 °F)
Recommended: 20 °C to 30 °C (68 °F to 86 °F)

Operating humidity
0% to 90% (no condensation)

Storage/transport temperature
–20 °C to +60 °C (–4 °F to +140 °F)

Storage/transport humidity
0% to 90%

Operating/storage/transport pressure
700 hPa to 1060 hPa

Mass Approx. 13.0 kg (28 lb 11 oz)

Supplied accessories
AC power cord (1)
AC plug holder (1)
Operation Guide (Japanese/English) (1)
CD-ROM (1)

Optional accessories
BKM-16R Monitor Control Unit
BKM-37H/BKM-38H Controller Attachment Stand
SMF-700 Monitor Interface Cable
BKM-220D SDI 4:2:2 Input Adaptor (with serial number 2100001 or higher)
BKM-227W NTSC/PAL Input Adaptor (with serial number 2100001 or higher)
BKM-229X Analog Component Input Adaptor (with serial number 2200001 or higher)
BKM-243HS HD/D1-SDI Input Adaptor (with serial number 2108355 or higher)
BKM-244CC HD/SD-SDI Closed Caption Adaptor
BKM-250TG 3G/HD/SD-SDI Input Adaptor (with serial number 7300001 or higher)

Note

An input adaptor with a specified serial number may be required for your intended use.
For the serial numbers of the input adaptors available for this unit, see “Input Adaptors” (page 22).

Design and specifications are subject to change without notice.

Notes

- Always make a test recording, and verify that it was recorded successfully.
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Specifications (BVM-F170A)

Picture performance

Panel OLED panel

Picture size (diagonal)
419.7 mm (16 $^{1}/_{2}$ inches)

Effective picture size (H × V)
365.8 × 205.7 mm
(14 $^{1}/_{2}$ × 8 $^{1}/_{8}$ inches)

Resolution (H × V)
1920 × 1080 pixels (Full HD)

Aspect 16:9

Pixel efficiency 99.99%

Panel drive RGB 10-bit

Panel frame rate 48 Hz, 50 Hz, 60 Hz, 72 Hz, 75 Hz[1)]
See “Picture Frame Display” (page 122).

1) 48 Hz, 60 Hz and 72 Hz are also compatible with a frame rate of 1/1.001.

Viewing angle (Panel specification)
89°/89°/89°/89° (typical)
(up/down/left/right, contrast > 10:1)

Normal scan 0% scan

Native scan Mapping the pixels of the signal to the panel to one-to-one mode, or displaying an SD signal of non-square pixels (the number of H pixels of the signal system is 720 or 1440) or a 640 × 480 SD signal of HDMI/DisplayPort video by scaling processing of doubling for the V direction and correct aspect ratio for the H direction and also optimizing and displaying a picture by modifying the aperture coefficient value, filter coefficient value, etc.

Under scan 3% under scan

Over scan Mask of 5% over scan portion in the normal scan

Color temperature
D65, D93 (Setting possible in other color temperature)

Standard luminance
100 cd/m^2 (Preset1 to Preset5)
(100% white signal input)

Color space (color gamut)
ITU-R BT.709, EBU, SMPTE-C, F170 Native[2)]

2) The BVM-F170A individual chromaticity points. The widest color space setting of the signal reproduced by the BVM-F170A

	x	y
R	0.681	0.319
G	0.189	0.724
B	0.141	0.051

(Typical)

Warm-up time Approx. 30 minutes

Input

SDI BNC (×2)
Input impedance: 75 ohms unbalanced
Signal format
See “Available Signal Systems” (page 112) and “Available Signal Formats” (page 113).
Sampling frequency
3G-SDI:
Y/Cb/Cr (4:2:2)
148.5MHz/74.25MHz/74.25MHz
Y/Cb/Cr (4:4:4)
148.5MHz/148.5MHz/148.5MHz
G/B/R (4:4:4)
148.5MHz/148.5MHz/148.5MHz
HD-SDI:
Y/Cb/Cr (4:2:2)
74.25MHz/37.125MHz/37.125MHz
SD-SDI:
Y/Cb/Cr (4:2:2)
13.5MHz/6.75MHz/6.75MHz
Quantization
3G-SDI: 10 bit/sample, 12 bit/sample
HD-SDI: 10 bit/sample
SD-SDI: 10 bit/sample

HDMI HDMI (×1)
HDCP correspondence, Deep Color correspondence
Signal format
See “HDMI/DisplayPort” (page 118) of “Available Signal Formats”.

DisplayPort DisplayPort connector (×1)
HDCP correspondence, 18/24/30bpp (bits per pixel) correspondence
Signal format
See “HDMI/DisplayPort” (page 118) of “Available Signal Formats”.

Option port Four (4) ports
Signal format
See “Available Signal Systems” (page 112) and “Available Signal Formats” (page 113).

Parallel remote D-sub 9-pin (female) (×1)
Serial remote (LAN)
Ethernet (10BASE-T/100BASE-TX), RJ-45 (×1)

Output

SDI BNC (×1) (monitor output)
Output signal amplitude:
800 mVp-p±10%
Output impedance: 75 ohms unbalanced
Transmission distance
3G-SDI: 70 m max.[3)]
HD-SDI: 100 m max.[3)]
SD-SDI: 200 m max.[4)]

Note

The signal from the monitor output connector does not satisfy the ON-LINE signal specifications.

3) When using the 5C-FB coaxial cable made by Fujikura Ltd. or equivalent

4) When using the 5C-2V coaxial cable made by Fujikura Ltd. or equivalent

DC 5V OUT Circle 4-pin (female) (×1)

General

Power requirements
100 V to 240 V AC,
1.2 A to 0.7 A, 50/60 Hz
24 V to 28 V DC,
4.5 A to 3.9 A
Power consumption
Approx. 110 W (AC power supply)/ approx. 100 W (DC power supply) (maximum)
Approx. 60 W (AC power supply)/ approx. 60 W (DC power supply) (average power consumption in the default status)
Inrush current (1) Maximum possible inrush current at initial switch-on (Voltage changes caused by manual switching):
55 A peak, 15 A r.m.s. (240V AC)
(2) Inrush current after a mains interruption of five seconds (Voltage changes caused at zero-crossing):
36 A peak, 7 A r.m.s. (240V AC)
Operating temperature
0 °C to 35 °C (32 °F to 95 °F)
Recommended: 20 °C to 30 °C (68 °F to 86 °F)
Operating humidity
0% to 90% (no condensation)
Storage/transport temperature
–20 °C to +60 °C (–4 °F to +140 °F)

Storage/transport humidity
0% to 90%
Operating/storage/transport pressure
700 hPa to 1060 hPa
Mass Approx. 8.6 kg (18 lb 15 oz)
Supplied accessories
AC power cord (1)
AC plug holder (1)
Rack mount bracket (Left, right, each 1)
Rack mount attachment screws (4)
Operation Guide (Japanese/English) (1)
CD-ROM (1)
Optional accessories
BKM-16R Monitor Control Unit
BKM-39H Controller Attachment Stand
SMF-700 Monitor Interface Cable
BKM-220D SDI 4:2:2 Input Adaptor (with serial number 2100001 or higher)
BKM-227W NTSC/PAL Input Adaptor (with serial number 2100001 or higher)
BKM-229X Analog Component Input Adaptor (with serial number 2200001 or higher)
BKM-243HS HD/D1-SDI Input Adaptor (with serial number 2108355 or higher)
BKM-244CC HD/SD-SDI Closed Caption Adaptor
BKM-250TG 3G/HD/SD-SDI Input Adaptor (with serial number 7300001 or higher)

Note

An input adaptor with a specified serial number may be required for your intended use.
For the serial numbers of the input adaptors available for this unit, see “Input Adaptors” (page 22).

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Notes
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Input Signals and Adjustable/Setting Items

Item	Input signal									
	Analog						SDI			HDMI/ DisplayPort
	Composite	Y/C	Component (YPbPr)		RGB		D1	3G/HD		
			SD	HD	SD	HD	YCbCr	YCbCr	RGB	
CONTRAST	○	○	○	○	○	○	○	○	○	○
BRIGHT	○	○	○	○	○	○	○	○	○	○
CHROMA	○	○	○	○	×	×	○	○	×	○ 5)
PHASE	○ (NTSC)	○ (NTSC)	×	×	×	×	×	×	×	×
Picture Auto Adjust	○	○	○	○	○	○	×	×	×	×
Component Level	×	×	○ (480i)	×	×	×	×	×	×	×
NTSC Setup Level	○ (NTSC)	○ (NTSC)	×	×	×	×	×	×	×	×
Betacam Setup Level	×	×	○ (480i)	×	×	×	×	×	×	×
Position Adj	○	○	○	○	○	○	×	×	×	×
Scan Mode	○	○	○	○	○	○	○	○	○	○ 6)
Native Scan (×1, ×2) 1)	○	○	○	○	○	○	○	○	○	○
Native Scan (Aspect Correction)	○	○	○	×	○	×	○	×	×	○ 4) 7)
16 : 9	○	○	○	○	○	○	○	○ 2)	○	○ 3) 7) 8)
H Delay	○	○	○	○	○	○	○	○	○	×
V Delay	○	○	○	○	○	○	○	○	○	×
External Sync	×	×	○	○	○	○	×	×	×	×
Comb	○	×	×	×	×	×	×	×	×	×
Char Off	○	○	○	○	○	○	○	○	○	○
Color Temp	○	○	○	○	○	○	○	○	○	○
Status	○	○	○	○	○	○	○	○	○	○
Aperture 9)	○	○	○	○	○	○	○	○	○	○
Mono	○	○	○	○	○	○	○	○	○	○
Blue Only	○	○	○	○	○	○	○	○	○	○
R Off	○	○	○	○	○	○	○	○	○	○
G Off	○	○	○	○	○	○	○	○	○	○
B Off	○	○	○	○	○	○	○	○	○	○
Chroma Up	○	○	○	○	×	×	○	○	×	○ 5)
Interlace	See “Picture Frame Display” on page 122.									
Pixel Zoom	○	○	○	○	○	○	○	○	○	○
Capture	×	×	×	×	×	×	×	○	○	×
Capture Load	○	○	○	○	○	○	○	○	○	○
Marker	○	○	○	○	○	○	○	○	○	○ 7)
Aspect Marker	○	○	○	○	○	○	○	○	○	○ 7)

Item	Input signal									
	Analog						SDI			HDMI/ DisplayPort
	Composite	Y/C	Component (YPbPr)		RGB		D1	3G/HD		
			SD	HD	SD	HD	YCbCr	YCbCr	RGB	
Area Marker 1	○	○	○	○	○	○	○	○	○	○ 7)
Area Marker 2	○	○	○	○	○	○	○	○	○	○ 7)
Center Marker	○	○	○	○	○	○	○	○	○	○ 7)
Aspect Marker-Line	○	○	○	○	○	○	○	○	○	○ 7)
Aspect Blanking-Half	○	○	○	○	○	○	○	○	○	○ 7)
Aspect Blanking-Black	○	○	○	○	○	○	○	○	○	○ 7)
Side by Side	○	○	○	○	○	○	○	○	○	○
Audio Level Meter 10)	×	×	×	×	×	×	○	○	○	×
ALM Hold Reset 10)	×	×	×	×	×	×	○	○	○	×
Time Code	×	×	×	×	×	×	○	○	○	×
Difference 12)	×	×	×	×	×	×	×	○ 13)	×	×
Checkerboard 11)	×	×	×	×	×	×	×	○ 13)	×	×
L/R Switch 11)	×	×	×	×	×	×	×	○ 13)	×	×
Horopter Check 11)	×	×	×	×	×	×	×	○ 13)	×	×
Flip H 11)	×	×	×	×	×	×	×	○ 13)	×	×

○: Adjustable/can be set
×: Not adjustable/cannot be set

1) Fixed to ×1 when the HD signal or the computer signal of HDMI/DisplayPort is input and ×2 when the SD signal is input from BKM-229X.
2) Fixed to 16:9 with 720P input signal.
3) Excludes 640 × 480/60*P. Fixed to 16:9 with 1280 × 720/50P, 60*P. (* Also compatible with 1/1.001.)
4) In effect with SD format
5) Functions when the YCbCr signal is input.
6) Fixed to Native Scan (×1) when the computer signal of HDMI/DisplayPort is input.
7) Does not function when the computer signal of HDMI/DisplayPort is input.
8) Functions when the HDMI Auto menu (page 57) of the Screen Aspect menu is set to Off.
9) For the operable input signal, see “Aperture Modification Frequency” (page 119).
10) Sets when the SDI signal is input from BKM-250TG.
11) Enabled when the SDI signal is input from a BKM-250TG with serial number 7100001 or higher.
12) Enabled when the SDI signal is input from a BKM-250TG with serial number 7300001 or higher.
13) Compatible with the dual-stream HD-SDI signal.

Available Signal Systems

Standard SDI input/Input adaptor

Signal system	Total lines per frame	Active lines per frame	Frame rate (Hz)	Scanning format	Aspect ratio	Standard	Display on the monitor
720×576/50i	625	576	25	2:1 Interlace	16:9/4:3	Rec.ITU-R BT.601	575/50I
1440×576/50i [1)]	625	576	25	2:1 Interlace	16:9/4:3		575/50I
720×487/59.94i	525	487	30/1.001	2:1 Interlace	16:9/4:3	Rec.ITU-R BT.601	480/60I 480/59.94I [2)]
1440×487/59.94i [1)]	525	487	30/1.001	2:1 Interlace	16:9/4:3		480/60I
1920×1080/24PsF	1125	1080	24	Progressive	16:9	SMPTE-274M	1080/24PsF
1920×1080/ 23.98PsF	1125	1080	24/1.001	Progressive	16:9	SMPTE-274M	1080/24PsF 1080/23.98PsF [2)]
1920×1080/25PsF	1125	1080	25	Progressive	16:9	SMPTE-274M	1080/25PsF
1920×1080/30PsF	1125	1080	30	Progressive	16:9	SMPTE-274M	1080/30PsF
1920×1080/ 29.97PsF	1125	1080	30/1.001	Progressive	16:9	SMPTE-274M	1080/30PsF 1080/29.97PsF [2)]
1920×1080/24P	1125	1080	24	Progressive	16:9	SMPTE-274M	1080/24P
1920×1080/23.98P	1125	1080	24/1.001	Progressive	16:9	SMPTE-274M	1080/24P 1080/23.98P [2)]
1920×1080/25P	1125	1080	25	Progressive	16:9	SMPTE-274M	1080/25P
1920×1080/30P	1125	1080	30	Progressive	16:9	SMPTE-274M	1080/30P
1920×1080/29.97P	1125	1080	30/1.001	Progressive	16:9	SMPTE-274M	1080/30P 1080/29.97P [2)]
1920×1080/50i	1125	1080	25	2:1 Interlace	16:9	SMPTE-274M	1080/50I
1920×1080/60i	1125	1080	30	2:1 Interlace	16:9	SMPTE-274M	1080/60I
1920×1080/59.94i	1125	1080	30/1.001	2:1 Interlace	16:9	SMPTE-274M	1080/60I 1080/59.94I [2)]
1920×1080/50P	1125	1080	50	Progressive	16:9	SMPTE-274M	1080/50P
1920×1080/60P	1125	1080	60	Progressive	16:9	SMPTE-274M	1080/60P
1920×1080/59.94P	1125	1080	60/1.001	Progressive	16:9	SMPTE-274M	1080/60P 1080/59.94P [2)]
1280×720/24P	750	720	24	Progressive	16:9	SMPTE-296M	720/24P
1280×720/23.98P	750	720	24/1.001	Progressive	16:9	SMPTE-296M	720/24P 720/23.98P [2)]
1280×720/25P	750	720	25	Progressive	16:9	SMPTE-296M	720/25P
1280×720/30P	750	720	30	Progressive	16:9	SMPTE-296M	720/30P
1280×720/29.97P	750	720	30/1.001	Progressive	16:9	SMPTE-296M	720/30P 720/29.97P [2)]
1280×720/50P	750	720	50	Progressive	16:9	SMPTE-296M	720/50P
1280×720/60P	750	720	60	Progressive	16:9	SMPTE-296M	720/60P
1280×720/59.94P	750	720	60/1.001	Progressive	16:9	SMPTE-296M	720/60P 720/59.94P [2)]

1) The analog component signal or analog RGB signal from BKM-229X is processed in 720 dots × 2 (1440 dots).
2) Displayed when a signal is input from the standard SDI input or the BKM-250TG, Format is set to 3G/HD/SD-SDI Auto (page 55) in the Channel Configuration menu, and the Picture Rate information for the Payload ID superimposed on the input signal is 23.98, 29.97, or 59.94.

• For details on the available signal system for the HDMI/DisplayPort input signal, see “HDMI/DisplayPort” (page 118) of “Available Signal Formats”.

Available Signal Formats

Standard SDI input/Input adaptor

Signal format			Matrix data setting area	Sygnal system	Standard SDI input	BKM-220D	BKM-227W	BKM-229X	BKM-243HS/244CC	BKM-250TG	Standard
Analog Composite											
NTSC	Setup level	0	SD	487/59.94i	×	×	○	×	×	×	SMPTE-170M
		7.5									
PAL				576/50i	×	×	○	×	×	×	Rec.ITU-R BT.470
PAL-M				487/59.94i	×	×	○	×	×	×	
SECAM				576/50i	×	×	○	×	×	×	
Analog Y/C											
NTSC	Setup level	0	SD	487/59.94i	×	×	○	×	×	×	
		7.5									
PAL				576/50i	×	×	○	×	×	×	
PAL-M				487/59.94i	×	×	○	×	×	×	
SECAM				576/50i	×	×	○	×	×	×	
Analog Component											
			HD	1080/60[1)] i	×	×	×	○	×	×	SMPTE-274M
				1080/50i	×	×	×	○	×	×	
				1080/24[1)] PsF	×	×	×	○	×	×	
				1080/25PsF	×	×	×	○	×	×	
				1080/30[1)] PsF	×	×	×	○	×	×	
				1080/24[1)] P	×	×	×	○	×	×	
				1080/25P	×	×	×	○	×	×	
				1080/30[1)] P	×	×	×	○	×	×	
				720/60[1)] P	×	×	×	○	×	×	SMPTE-296M
				720/50P	×	×	×	○	×	×	
			SD	576/50i	×	×	×	○	×	×	EBU N10
Component level	SMPTE/EBU N10		SD	487/59.94i	×	×	×	○	×	×	
	Betacam	0									
		7.5									

Signal format				Matrix data setting area	Sygnal system	Standard SDI input	BKM-220D	BKM-227W	BKM-229X	BKM-243HS/244CC	BKM-250TG	Standard
Analog RGB												
				—	1080/60[1] i	×	×	×	○	×	×	SMPTE-274M
					1080/50i	×	×	×	○	×	×	
					1080/24[1] PsF	×	×	×	○	×	×	
					1080/25PsF	×	×	×	○	×	×	
					1080/30[1] PsF	×	×	×	○	×	×	
					1080/24[1] P	×	×	×	○	×	×	
					1080/25P	×	×	×	○	×	×	
					1080/30[1] P	×	×	×	○	×	×	
					720/60[1] P	×	×	×	○	×	×	SMPTE-296M
					720/50P	×	×	×	○	×	×	
					487/59.94i	×	×	×	○	×	×	
					576/50i	×	×	×	○	×	×	EBU N10
SD-SDI												
Single-link	4:2:2	YCbCr		SD	720 × 487/59.94i	○	○	×	×	○	○	SMPTE-259M
Single-link	4:2:2	YCbCr			720 × 576/50i	○	○	×	×	○	○	
HD-SDI												
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/24[1] PsF	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/25PsF	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/30[1] PsF	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								

Signal format				Matrix data setting area	Sygnal system	Standard SDI input	BKM-220D	BKM-227W	BKM-229X	BKM-243HS/244CC	BKM-250TG	Standard
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/24[1] P	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/25P	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/30[1] P	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/50i	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/60[1] i	○	×	×	×	○	○	SMPTE-292M
Dual-link	4:4:4	YCbCr	10bit	HD		×	×	×	×	○(2)	○	SMPTE-372M
		RGB[2]	10bit	—								
		YCbCr	12bit	HD								
		RGB[2]	12bit	—								
Dual-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/50P	×	×	×	×	○(2)	○	
Dual-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/60[1] P	×	×	×	×	○(2)	○	
Single-link	4:2:2	YCbCr	10bit	HD	1280 × 720/24[1] P	○	×	×	×	○	○	SMPTE-292M
Single-link	4:2:2	YCbCr	10bit	HD	1280 × 720/25P	○	×	×	×	○	○	
Single-link	4:2:2	YCbCr	10bit	HD	1280 × 720/30[1] P	○	×	×	×	○	○	
Single-link	4:2:2	YCbCr	10bit	HD	1280 × 720/50P	○	×	×	×	○	○	
Single-link	4:2:2	YCbCr	10bit	HD	1280 × 720/60[1] P	○	×	×	×	○	○	

Signal format				Matrix data setting area	Sygnal system	Standard SDI input	BKM-220D	BKM-227W	BKM-229X	BKM-243HS/244CC	BKM-250TG	Standard
3G-SDI												
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/24[1] PsF	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/25PsF	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/30[1] PsF	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/24[1] P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/25P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/30[1] P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/50i	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1920 × 1080/60[1] i	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								
	4:4:4	YCbCr	12bit	HD								
	4:4:4	RGB[2]	12bit	—								
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/50P	○	×	×	×	×	○	SMPTE-425-AB
Single-link	4:2:2	YCbCr	10bit	HD	1920 × 1080/60[1] P	○	×	×	×	×	○	SMPTE-425-AB
Single-link	4:4:4	YCbCr	10bit	HD	1280 × 720/24[1] P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2]	10bit	—								

Signal format				Matrix data setting area	Sygnal system	Standard SDI input	BKM-220D	BKM-227W	BKM-229X	BKM-243HS/244CC	BKM-250TG	Standard
Single-link	4:4:4	YCbCr	10bit	HD	1280 × 720/25P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2)]	10bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1280 × 720/30[1)] P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2)]	10bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1280 × 720/50P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2)]	10bit	—								
Single-link	4:4:4	YCbCr	10bit	HD	1280 × 720/60[1)] P	○	×	×	×	×	○	SMPTE-425-AB
	4:4:4	RGB[2)]	10bit	—								

○: Signal can be reproduced.
×: Signal cannot be reproduced.
○ (2): Two adaptors are used.

1) Also compatible with 1/1.001.
2) The quantization level of the 4:4:4 RGB input signal is set in the RGB Range menu (page 60).

HDMI/DisplayPort

Signal format	Matrix data setting area	Signal system	Interface sampling frequency [MHz]	Aspect ratio	Standard
RGB 4:4:4 6/8/10/12bit[2) 5) 6)] YCbCr 4:4:4 6/8/10/12bit[2) 5) 6)] YCbCr 4:2:2 12bit	SD	640 × 480/60[1)] P	25.200[1)]	4:3	CEA-861
		720 × 480/60[1)] P	27.027[1)]	4:3/16:9	
	HD	1280 × 720/60[1)] P	74.250[1)]	16:9	
		1920 × 1080/60[1)] i	74.250[1)]	16:9	
	SD	720 (1440)[3)] × 480/60[1)] i[7)]	27.027[1)]	4:3/16:9	
		720 × 576/50P	27.000	4:3/16:9	
	HD	1280 × 720/50P	74.250	16:9	
		1920 × 1080/50i	74.250	16:9	
	SD	720 (1440)[3)] × 576/50i[7)]	27.000	4:3/16:9	
	HD	1920 × 1080/60[1)] P	148.500[1)]	16:9	
		1920 × 1080/50P	148.500	16:9	
		1920 × 1080/24[1)] P	74.250[1)]	16:9	
		1920 × 1080/25P	74.250	16:9	
		1920 × 1080/30[1)] P	74.250[1)]	16:9	
	—	800 × 600/60P[4)]	40.000	4:3	VESA
		1024 × 768/60P[4)]	65.000	4:3	
		1280 × 960/60P[4)]	108.000	4:3	
		1280 × 1024/60P[4)]	108.000	5:4	
		1400 × 1050/60P[4)]	121.750	4:3	

1) Also compatible with 1/1.001.
2) RGB/YCbCr format and 6/8/10/12bit are selected automatically according to the input signal.
3) Pixel Repetition = 2 (transmit the same pixel twice)
4) In this manual, the 800 × 600, 1024 × 768, 1280 × 960, 1280 × 1024 and 1400 × 1050 signals are referred to as the HDMI/DisplayPort computer signals.
5) The HDMI signal does not support the RGB/YCbCr 4:4:4 6bit signal.
6) The DisplayPort signal does not support the RGB/YCbCr 4:4:4 12bit signal.
7) The DisplayPort signal does not support this signal system.

- The quantization level of the HDMI/DisplayPort input signal is set in the RGB Range menu (page 60).
- The aspect ratio of the HDMI input signal is manually set when the HDMI Auto menu (page 57) of the Screen Aspect menu is set to Off.

Aperture Modification Frequency

Signal system	Serial digital input		Analog input		HDMI/DisplayPort input
	SD-SDI	3G/HD-SDI	Composite (Y/C)	Component (YP_bP_r) RGB	Component (YC_bC_r) RGB
Standard SDI input/Input adaptor					
576/50i	5 MHz		5 MHz	5 MHz	
487/59.94i	5 MHz		5 MHz	5 MHz	
1080/24[1)] PsF		25 MHz		25 MHz	
1080/24[1)] P		25 MHz		25 MHz	
1080/50i (25PsF)		25 MHz		25 MHz	
1080/25P		25 MHz		25 MHz	
1080/60[1)] i (30[1)] PsF)		25 MHz		25 MHz	
1080/30[1)] P		25 MHz		25 MHz	
720/24[1)] P		25 MHz			
720/25P		25 MHz			
720/30[1)] P		25 MHz			
720/50P		25 MHz		25 MHz	
720/60[1)] P		25 MHz		25 MHz	
1080/50P		50 MHz			
1080/60[1)] P		50 MHz			
HDMI/DisplayPort					
640×480/60[1)] P					10 MHz
720×480/60[1)] P					10 MHz
1280×720/60[1)] P					25 MHz
1920×1080/60[1)] i					25 MHz
720 (1440)[2)] × 480/60[1)] i[3)]					5 MHz
720×576/50P					10 MHz
1280×720/50P					25 MHz
1920×1080/50i					25 MHz
720 (1440)[2)] ×576/50i[3)]					5 MHz
1920×1080/60[1)] P					50 MHz
1920×1080/50P					50 MHz
1920×1080/24[1)] P					25 MHz
1920×1080/25P					25 MHz
1920×1080/30[1)] P					25 MHz

1) Also compatible with 1/1.001
2) Pixel Repetition = 2 (transmit the same pixel twice)
3) The DisplayPort signal does not support this signal system.

Blank column: The signal cannot be input or the aperture modification does not operate for that signal even if it is input.

Picture Display Size

Standard SDI input/Input adaptor

Signal system	Aspect ratio	Native Scan ×1	Native Scan ×2	Native Scan Aspect Correction	Normal Scan	Under Scan	Over Scan	Side by Side
		(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)
720 × 576/50i	4:3	720 × 576	1440 × 1152	1575 × 1152	1477 × 1080	1432 × 1048	1407 × 1029	960 × 702
	16:9			2100 × 1152	1920 × 1053	1862 × 1022	1829 × 1003	960 × 527
1440 × 576/50i[2)]	4:3		1440 × 1152	1575 × 1152	1477 × 1080	1432 × 1048	1407 × 1029	960 × 702
	16:9			2100 × 1152	1920 × 1053	1862 × 1022	1829 × 1003	960 × 527
720 × 487/59.94i	4:3	720 × 487	1440 × 974	1302 × 974	1443 × 1080	1400 × 1048	1374 × 1029	960 × 718
	16:9			1736 × 974	1920 × 1077	1862 × 1045	1829 × 1026	960 × 539
1440 × 487/59.94i[2)]	4:3		1440 × 974	1302 × 974	1443 × 1080	1400 × 1048	1374 × 1029	960 × 718
	16:9			1736 × 974	1920 × 1077	1862 × 1045	1829 × 1026	960 × 539
1920 × 1080/24[1)]PsF	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/25PsF	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/30[1)]PsF	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/24[1)]P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/25P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/30[1)]P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/50i	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/60[1)]i	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/50P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/60[1)]P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1280 × 720/24[1)]P	16:9	1280 × 720			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1280 × 720/25P	16:9	1280 × 720			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1280 × 720/30[1)]P	16:9	1280 × 720			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1280 × 720/50P	16:9	1280 × 720			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1280 × 720/60[1)]P	16:9	1280 × 720			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540

1) Also compatible with 1/1.001

2) The analog component signal or analog RGB signal from BKM-229X is processed in 720 dots × 2 (1440 dots).

・ Over Scan: The area size where 5% over scan portion in the normal scan is masked.

・ Native Scan Aspect Correction: The area over the H size (1920) is not displayed.

HDMI/DisplayPort

Signal system	Aspect ratio	Native Scan ×1	Native Scan ×2	Native Scan Aspect Correction	Normal Scan	Under Scan	Over Scan	Side by Side
		(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)	(H) × (V)
640 × 480/60[1)]P	4:3	640 × 480	1280 × 960	1280 × 960	1440 × 1080	1397 × 1048	1371 × 1029	960 × 720
720 × 480/60[1)]P	4:3	720 × 480	1440 × 960	1280 × 960	1440 × 1080	1397 × 1048	1371 × 1029	960 × 720
	16:9			1707 × 960	1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1280 × 720/60[1)]P	16:9	1280 × 720			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/60[1)]i	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
720(1440)[2)] × 480/60[1)]i[3)]	4:3	720 × 480	1440 × 960	1280 × 960	1440 × 1080	1397 × 1048	1371 × 1029	960 × 720
	16:9			1707 × 960	1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
720 × 576/50P	4:3	720 × 576	1440 × 1152	1536 × 1152	1440 × 1080	1397 × 1048	1371 × 1029	960 × 720
	16:9			2048 × 1152	1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1280 × 720/50P	16:9	1280 × 720			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/50i	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
720(1440)[2)] × 576/50i[3)]	4:3	720 × 576	1440 × 1152	1536 × 1152	1440 × 1080	1397 × 1048	1371 × 1029	960 × 720
	16:9			2048 × 1152	1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/60[1)]P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/50P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/24[1)]P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/25P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
1920 × 1080/30[1)]P	16:9	1920 × 1080			1920 × 1080	1862 × 1048	1829 × 1029	960 × 540
800 × 600/60P (SVGA)	4:3	800 × 600						960 × 720
1024 × 768/60P (XGA)	4:3	1024 × 768						960 × 720
1280 × 960/60P (SXGA)	4:3	1280 × 960						960 × 720
1280 × 1024/60P (SXGA)	5:4	1280 × 1024						960 × 768
1400 × 1050/60P (SXGA+)	4:3	1400 × 1050						960 × 720

1) Also compatible with 1/1.001
2) Pixel Repetition = 2 (transmit the same pixel twice)
3) The DisplayPort signal does not support this signal system.

- Over Scan: The area size where 5% over scan portion in the normal scan is masked.
- Native Scan Aspect Correction: The area over the H size (1920) is not displayed.
- The aspect ratio is manually set when the HDMI Auto menu (page 57) of the Screen Aspect menu is set to Off.

Picture Frame Display

Standard SDI input/Input adaptor

Signal system	Progressive	Interlace
	Display frame rate [Hz]	Display frame rate [Hz]
720 × 576/50i	50	50
1440 × 576/50i[2)]	50	50
720 × 487/59.94i	59.94	59.94
1440 × 487/59.94i[2)]	59.94	59.94
1920 × 1080/24[1)] PsF	72[1)]	48[1) 3)]
1920 × 1080/25PsF	75	50[3)]
1920 × 1080/30[1)] PsF	60[1)]	60[1) 3)]
1920 × 1080/24[1)] P	72[1)]	×
1920 × 1080/25P	75	×
1920 × 1080/30[1)] P	60[1)]	×
1920 × 1080/50i	50	50[4)]
1920 × 1080/60[1)] i	60[1)]	60[1) 4)]
1920 × 1080/50P	50	×
1920 × 1080/60[1)] P	60[1)]	×
1280 × 720/24[1)] P	50	×
1280 × 720/25P	50	×
1280 × 720/30[1)] P	50	×
1280 × 720/50P	50	×
1280 × 720/60[1)] P	60[1)]	×

1) Also compatible with 1/1.001.
2) The analog component signal or analog RGB signal from BKM-229X is processed in 720 dots × 2 (1440 dots).
3) When 1080I is selected in the 1080I/PsF menu of the Channel Configuration menu, the input signal is regarded as an interlace signal, and it can be displayed in interlace mode if the interlace display mode is selected.
4) Functions when 1080I is selected in the 1080I/PsF menu of the Channel Configuration menu.

HDMI/DisplayPort

Signal system	Progressive	Interlace
	Display frame rate [Hz]	Display frame rate [Hz]
640 × 480/60[1] P	60[1]	×
720 × 480/60[1] P	60[1]	×
1280 × 720/60[1] P	60[1]	×
1920 × 1080/60[1] i	60[1]	60[1]
720 (1440)[2] × 480/60[1] i[3]	60[1]	60[1]
720 × 576/50P	50	×
1280 × 720/50P	50	×
1920 × 1080/50i	50	50
720 (1440)[2] × 576/50i[3]	50	50
1920 × 1080/60[1] P	60[1]	×
1920 × 1080/50P	50	×
1920 × 1080/24[1] P	72[1]	×
1920 × 1080/25P	75	×
1920 × 1080/30[1] P	60[1]	×
800 × 600/60P (SVGA)	60	×
1024 × 768/60P (XGA)	60	×
1280 × 960/60P (SXGA)	60	×
1280 × 1024/60P (SXGA)	60	×
1400 × 1050/60P (SXGA+)	60	×

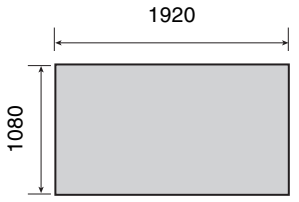
1) Also compatible with 1/1.001.
2) Pixel Repetition = 2 (transmit the same pixel twice)
3) The DisplayPort signal does not support this signal system.

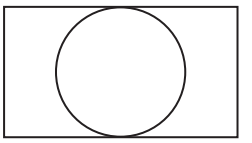
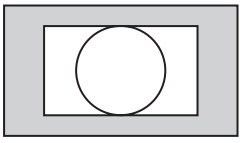
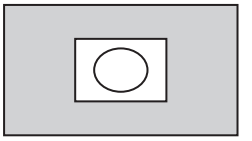
Scan Mode Image

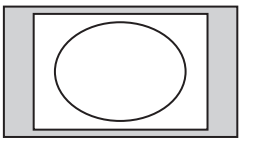
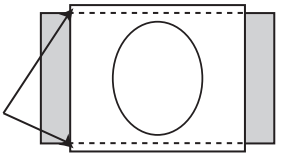
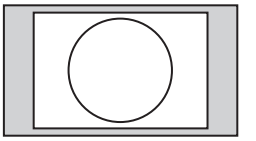
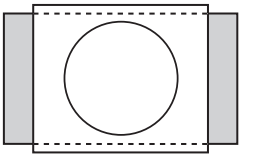
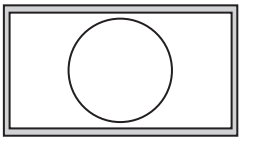
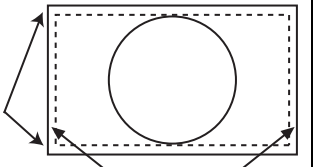
Example: Scan images of available signal systems when a signal is input from the standard SDI input or optional input adaptor installed

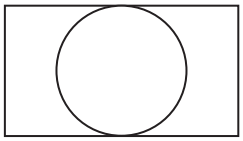
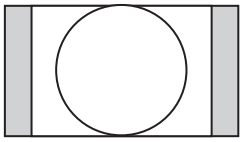
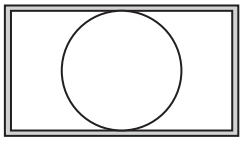
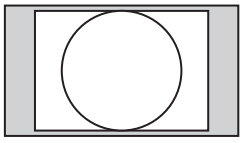
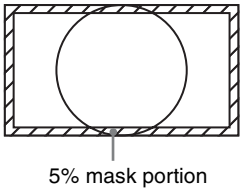
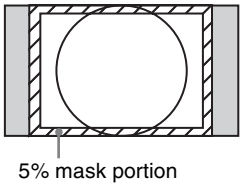
- For details of the picture display size, see “Picture Display Size” (page 120).
- For setting of the Native Scan Mode menu, see Native Scan Mode (page 62) of the Auxiliary Setting menu.
- For setting of Aspect, see the Screen Aspect menu (page 57) of the Channel Configuration menu.

Panel size



Scan mode	Input signal system and scan mode image
Native Scan	
Native Scan Mode: ×1	1920 × 1080  1280 × 720  720 × 576 720 × 487 

Scan mode	Input signal system and scan mode image
Native Scan Mode: ×2	720 × 487 1440 × 487  720 × 576 1440 × 576 Displayed by sliding the picture with the UP/DOWN button of the controller. 
Native Scan Mode: Aspect Correction Aspect: 4:3	720 × 487 1440 × 487  720 × 576 1440 × 576 
Native Scan Mode: Aspect Correction Aspect: 16:9	720 × 487 1440 × 487  720 × 576 1440 × 576 Displayed the whole picture of the V direction by sliding the picture with the UP/DOWN button of the controller.  Displayed the whole picture of the H direction by sliding the picture with the PHASE knob of the controller.

Scan mode	Input signal system and scan mode image
Normal Scan	
Aspect: 16:9	1920 × 1080 1280 × 720 720 × 576 720 × 487 1440 × 576 1440 × 487 
Aspect: 4:3	720 × 576 720 × 487 1440 × 576 1440 × 487 
Under Scan	
Aspect: 16:9	1920 × 1080 1280 × 720 720 × 576 720 × 487 1440 × 576 1440 × 487 
Aspect: 4:3	720 × 576 720 × 487 1440 × 576 1440 × 487 
Over Scan	
Aspect: 16:9	1920 × 1080 1280 × 720 720 × 576 720 × 487 1440 × 576 1440 × 487 
Aspect: 4:3	720 × 576 720 × 487 1440 × 576 1440 × 487 

Troubleshooting

This section may help you isolate the cause of a problem and as a result, eliminate the need to contact your Sony service representative.

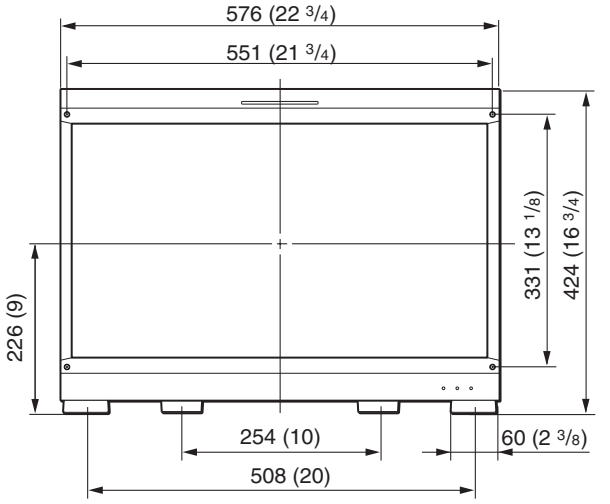
Symptom	Assumed causes	Remedy
The picture that you wish to display is not displayed.	The setting of the Channel Configuration menu does not correspond to the input signal.	See the System Status menu (page 80) to confirm the setting. When the setting is different from the input signal, set in the Channel Configuration menu (page 55).
The color is not displayed correctly.	The color temperature is not set correctly.	Set the color temperature in the Color Temp menu (page 58) of the Channel Configuration menu.
	The setting of the color profile or the matrix is not correct.	Set in the Color Profile menu (page 58) or Matrix menu (page 58) of the Channel Configuration menu.
The signals are not displayed in the multi display.	The input signals of INPUT 1 and INPUT 2 of one standard SDI input or one input adaptor are selected.	Install one or more adaptor and use the signals from the standard SDI input and the input adaptor for signal A and signal B. Install two or more adaptors and use the different input adaptor for signal A and signal B.
	The reference signal is not input (No Sync status).	Input the reference signal.
	The internal signal is selected as signal A. The internal signal is selected as signal B.	The internal signal is not displayed in the multi display.
	The HDMI input signal is selected as signal A, and the DisplayPort signal is selected as signal B.	The multi display with an HDMI signal and a DisplayPort signal is not possible.
The signal input from BKM-227W or BKM-229X is not displayed correctly.	The auto chroma/phase/matrix adjustment has not been performed.	Carry out the auto chroma/phase/matrix adjustment to display the signal input from BKM-227W or BKM-229X.
The pixel zoom does not function.	The native scan mode is not selected.	Set to the native scan mode (page 90).
The marker is not displayed.	The display is set in the multi display or the pixel zoom display.	Set Side by Side to Off in the Function Switch menu (page 67) of the Function Setting menu. Set the Pixel Zoom button to off.
	The computer signal of HDMI/ DisplayPort signal is displayed.	The marker is not displayed when the computer signal of HDMI/DisplayPort is input.
	The internal signal is displayed.	The marker is not displayed when the internal signal is input.
	The signal is displayed in H delay mode or V delay mode.	The marker is not displayed in H delay mode or V delay mode.
The signal is not displayed in interlace mode.	The interlace signal is not input.	Input the interlace signal.
	The signal is set to 1080PsF in 1080I/ PsF (page 61) of the Channel Configuration menu.	Set to 1080I.
	The native scan mode is not selected.	Set to the native scan mode (page 90).
The setting is different from the setting in the menu.	The setting has been changed with the function button of the controller after setting in the menu.	The last setting becomes effective.
The function button of the controller does not function.	The setting has been changed in the menu after setting with the function button.	The last setting becomes effective.

Symptom	Assumed causes	Remedy
The function of the function button of the controller is different from that of the panel display.	Another function has been assigned to the button.	See the Function Key menu (page 83) of the Controller menu to confirm the function assigned to the function button.
The zebra pattern does not go off.	An Over Range error is detected. The zebra pattern is set to be displayed in the Over Range portion, and the detected Over Range information is retained.	Set Over Range (page 75) to Off in the On Screen Set menu of the System Configuration menu. **Note** If the OVER RANGE lamp lights, adjust the contrast or brightness to a lower level.
The picture is not displayed on the monitor when you have connected two or more computers via the DisplayPort connector through a switch box or other device and switch the input signal from one computer to another.	You have switched from a computer that is in power save mode to another.	Do not switch from a computer in power save mode to another. If the picture is not displayed after switching, turn the monitor off then back on again or switch back to the computer in power save mode and bring in out of power save mode.

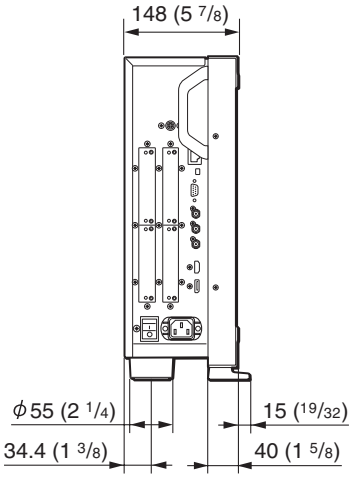
Dimensions (BVM-F250A)

Unit: mm (inches)

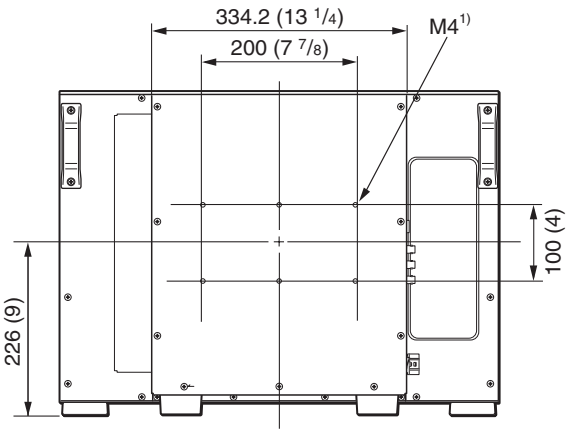
Front



Side



Rear

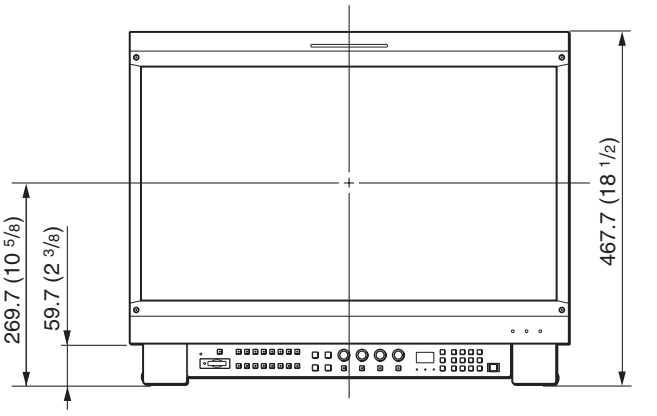


1) When using this hole, use a screw which can be inserted into the monitor to a depth of 6 to 8 mm (1/4 to 11/32 inches).

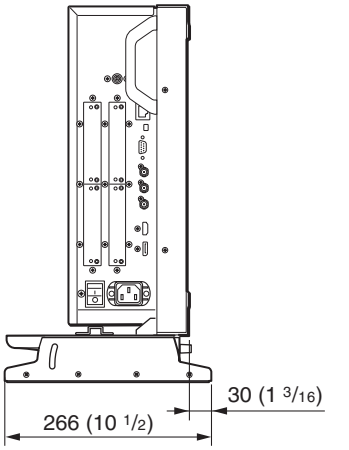
When the controller is attached with the BKM-37H

When the tilt unit is removed from the BKM-37H

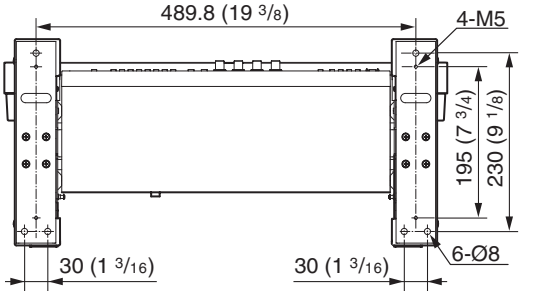
Front



Side

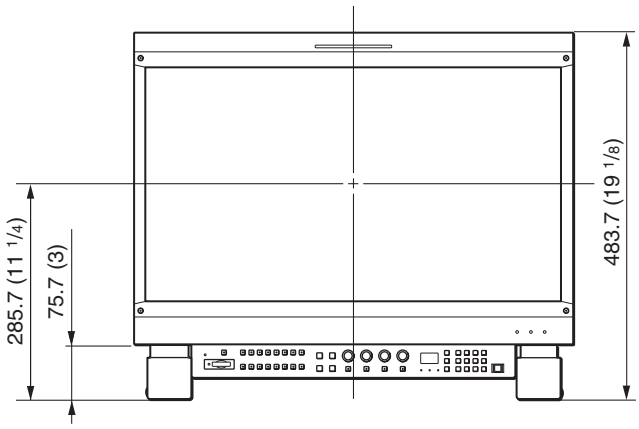


Bottom

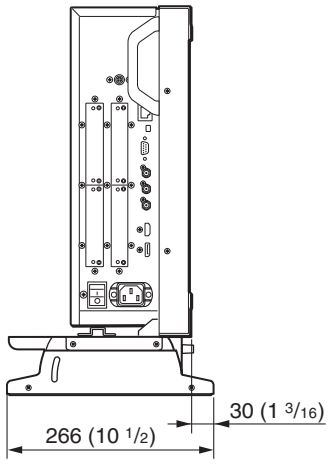


When the tilt unit is attached to the BKM-37H

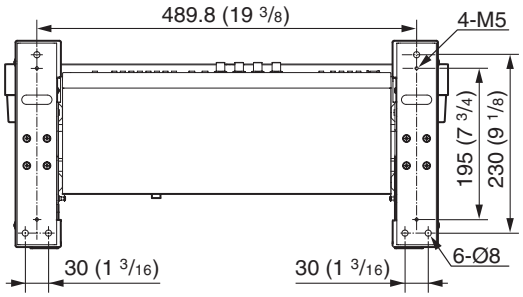
Front



Side

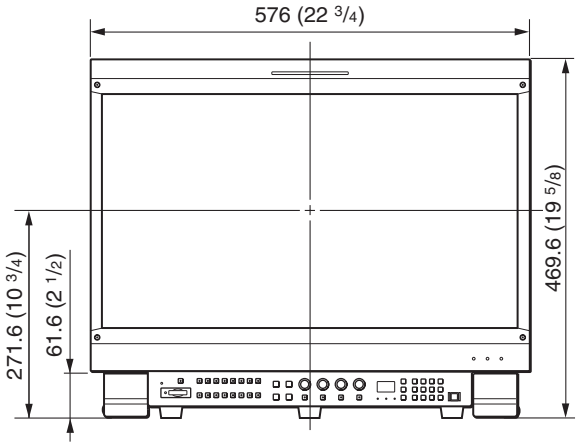


Bottom

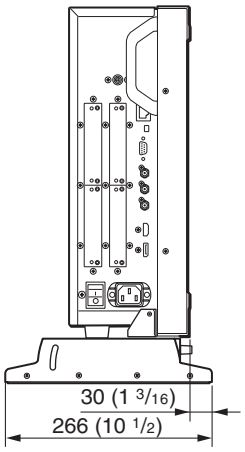


When the controller is attached with the BKM-38H

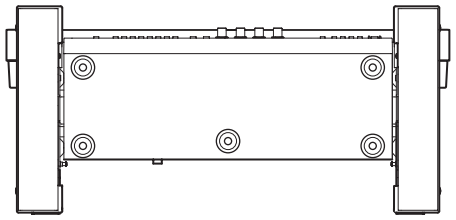
Front



Side



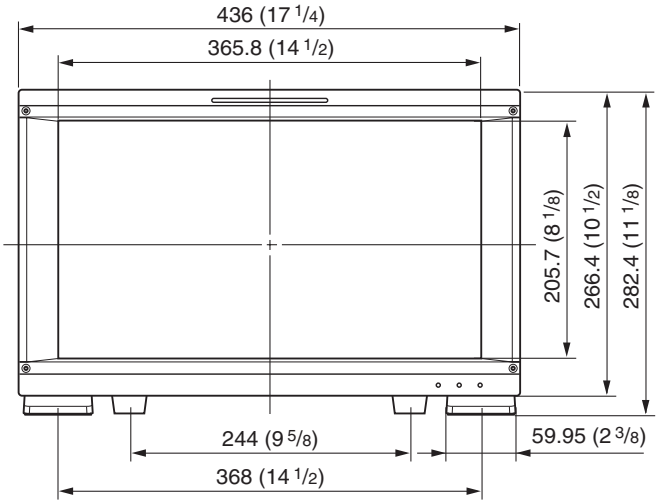
Bottom



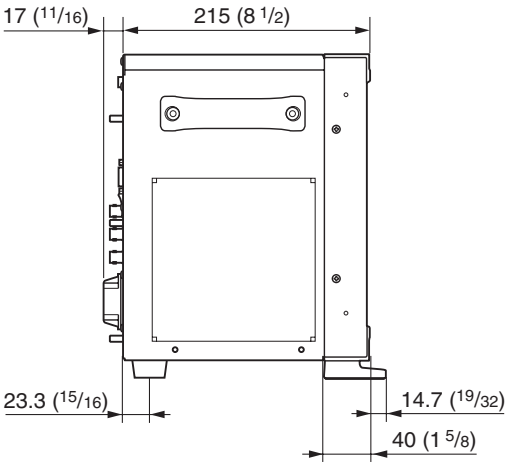
Dimensions (BVM-F170A)

Unit: mm (inches)

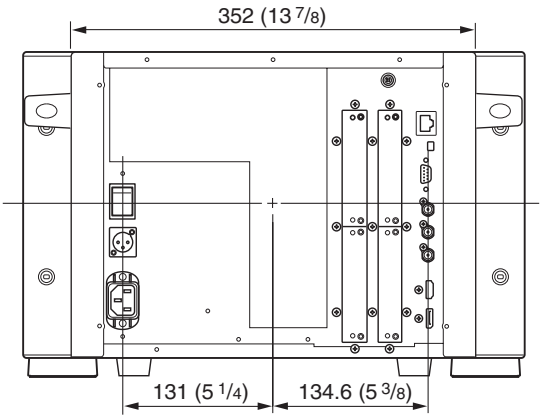
Front



Side

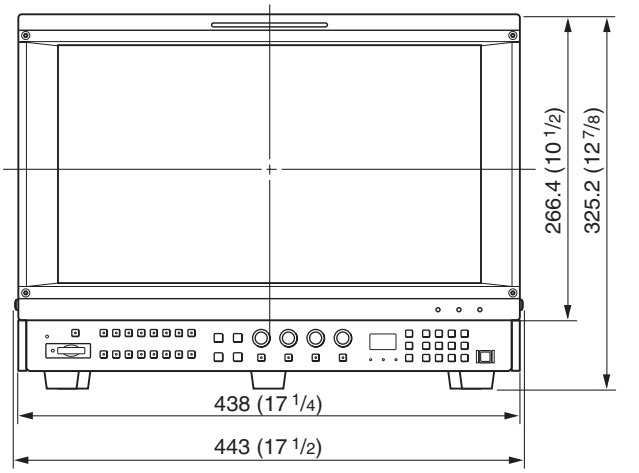


Rear

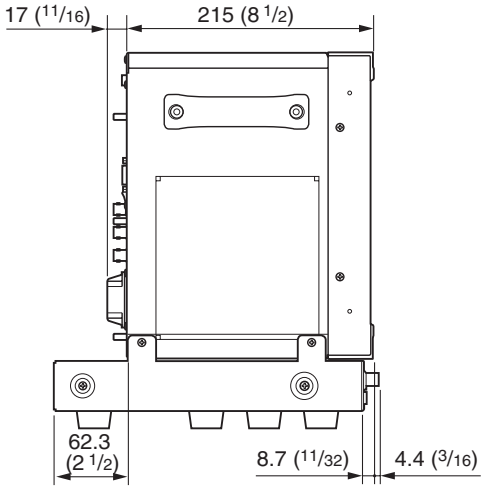


When the controller is attached with the BKM-39H

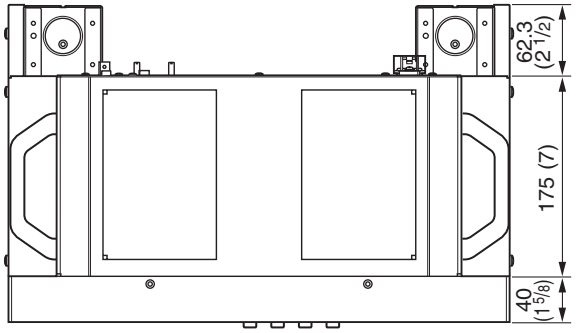
Front



Side



Top



Inserting/Ejecting the “Memory Stick”

The BKM-16R Monitor Control Unit has a slot that can take both standard size and Duo size. All products with a slot such as this are equipped with a system which automatically measures the size of an inserted medium. For this reason, both the standard-size “Memory Stick”/ “Memory Stick PRO” and smaller “Memory Stick Duo”/ “Memory Stick PRO Duo” can be used with this product without a Memory Stick Duo adaptor.
When an M2 adaptor is attached, you can use a “Memory Stick Micro” (“M2”)[1)].
Proceed as illustrated to insert and eject an optional “Memory Stick”.

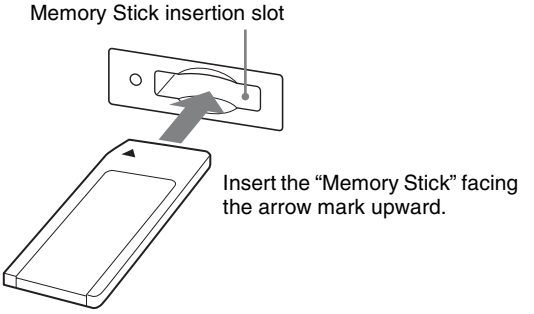
See each menu for information about operations on “Memory Stick” data.

1) “M2” is an abbreviation for “Memory Stick Micro”.

Note

Do not eject the “Memory Stick” while data is being saved or loaded.

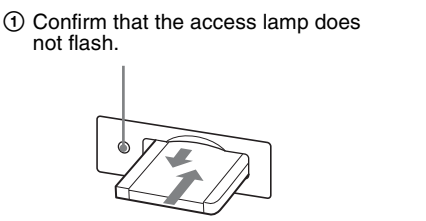
To insert the “Memory Stick”



Notes

- “Memory Stick Duo”/“Memory Stick PRO Duo” can be used without a Memory Stick Duo adaptor.
- When you use a “Memory Stick Micro”, do so after attaching the M2 adaptor (optional).
- When the “Memory Stick Micro” is inserted without the M2 adaptor, the “Memory Stick Micro” may not be removed from the unit.
- Be sure to insert the “Memory Stick” in the correct direction. Forcing the “Memory Stick” in the wrong way may damage it.
- Insert only the “Memory Stick” into the Memory Stick insertion slot. Attempting to insert other objects into the Memory Stick insertion slot may damage the product.

To eject the “Memory Stick”



Notes on “Memory Stick”

Available types of “Memory Stick”

- “Memory Stick”, “Memory Stick PRO”, “Memory Stick Duo”, “Memory Stick PRO Duo” and “Memory Stick Micro” are used for the BKM-16R.
- The data displayed on this unit is not protected by the MagicGate copyright protection technology because the BKM-16R is not compliant with the “MagicGate” standard.
- Prepare “Memory Stick PRO (High-Speed)” or “Memory Stick PRO Duo (High-Speed)” for using the HD frame capture function (page 93).
- Although an operation check of this product has been performed with a “Memory Stick” of up to 8 GB, please note that operation is not guaranteed for every type of “Memory Stick”.

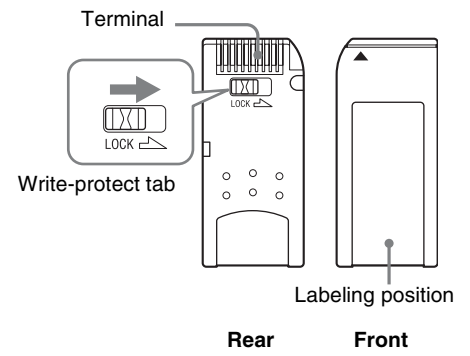
Note on data read/write speed

Data read/write speed may vary depending on the combination of the “Memory Stick” and “Memory Stick” compliant product you use.

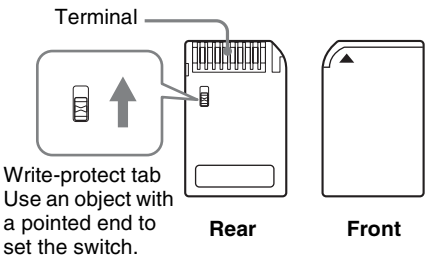
What is MagicGate?

MagicGate is copyright protection technology developed by Sony Corporation.

Before using a “Memory Stick”/“Memory Stick PRO”



Before using a “Memory Stick Duo”/ “Memory Stick PRO Duo”



Before using a “Memory Stick Micro”

Attach the M2 adaptor to the “Memory Stick Micro” to insert into the slot of the controller.

Notes

- You cannot record or erase data when the write-protect tab on the “Memory Stick” is set to LOCK.
- Image data may be damaged in the following cases:
  - If you remove the “Memory Stick,” or turn the power off when the access lamp is lit or flashing
  - If you use a “Memory Stick” near static electricity or a magnetic field
- When writing in the memory area, do not put strong pressure on the pen.
- We recommend backing up important data.
- Do not attach anything other than the supplied label to the “Memory Stick” labeling position.
- Attach the label so that it does not stick out beyond the labeling position.
- Carry and store the “Memory Stick” in its case.
- Do not touch the connector of the “Memory Stick” with anything, including your finger or metallic objects.
- Do not strike, bend, or drop the “Memory Stick.”
- Do not disassemble or modify the “Memory Stick.”
- Do not allow the “Memory Stick” to get wet.
- Do not use or store the “Memory Stick” in a location that is:
  - Extremely hot, such as in a car parked in the sun
  - Under direct sunlight
  - Very humid or subject to corrosive substances
- Do not insert multiple “Memory Stick” cards at the same time. This may cause damage to the product.
- When you use “Memory Stick Duo”/“Memory Stick PRO Duo” with this product, be sure to insert it in the right direction. Inserting it in the wrong direction may cause damages to the product.
- “Memory Stick Duo”/“Memory Stick PRO Duo”/ “Memory Stick Micro” and M2 duo size adaptor should be kept away from small children to prevent them from accidentally swallowing it.
- If the “Memory Stick Micro” attached to the M2 adaptor is attached to the Memory Stick Duo adaptor and inserted in the slot, the “Memory Stick Micro” may not function.
- Up to 1000 files can be memorized in one “Memory Stick”. When more than 1000 files are created, the warning “Too many files” is displayed. Delete an unused file using Delete (page 66) in the Capture menu of the Function Setting menu, or the Delete menu (page 79) of the File Management menu, or using the machine and application corresponding to the “Memory Stick”.
- Up to 20 characters can be used for the file name. When more than 20 characters are used for the file name, the file is not displayed.
- Use the machine and application corresponding to the “Memory Stick” for initialization of the “Memory Stick”. When Windows Explorer is used for initialization, a format error is caused and the “Memory Stick” is not usable for the monitor.
- When the data in the folder for the application software is copied or edited with the function of Windows, the data may not be reproduced.

“Memory Stick”, “Memory Stick PRO”, “Memory Stick Duo”, “Memory Stick PRO Duo”, “Memory Stick Micro”, “M2” and are trademarks or registered trademarks of Sony Corporation.

Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.

It is against the copyright law to use any audio or picture you recorded without prior consent of the copyright holder. Accordingly, “Memory Stick” with content protected image or data can be only used within the law.

Menu Index

The menu index shows the principal menu items provided with this monitor in alphabetical sequence. For your reference, each menu item is followed by the page of this manual on which the item is explained and the main menu that the item belongs to.

	Menu Item	Page	Main menu
Number	1 Pin to 8 Pin	73	System Configuration menu
	1080I/PsF	61	Channel Configuration menu
	16:9	67	Function Setting menu
	3D Setting	66	Function Setting menu
A	Adjustment	50	Adjustment menu
	ALM Hold Reset	70	Function Setting menu
	Aperture	68	Function Setting menu
	Aperture Value	62	Auxiliary Setting menu
	Apply Password	76	System Configuration menu
	Area Marker 1	64	Function Setting menu
		69	Function Setting menu
	Area Marker 2	65	Function Setting menu
		69	Function Setting menu
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	Aspect Blanking-Half	69	Function Setting menu
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